TABLE OF CONTENTS

LIST OF TABLES

LIST OF MAPS

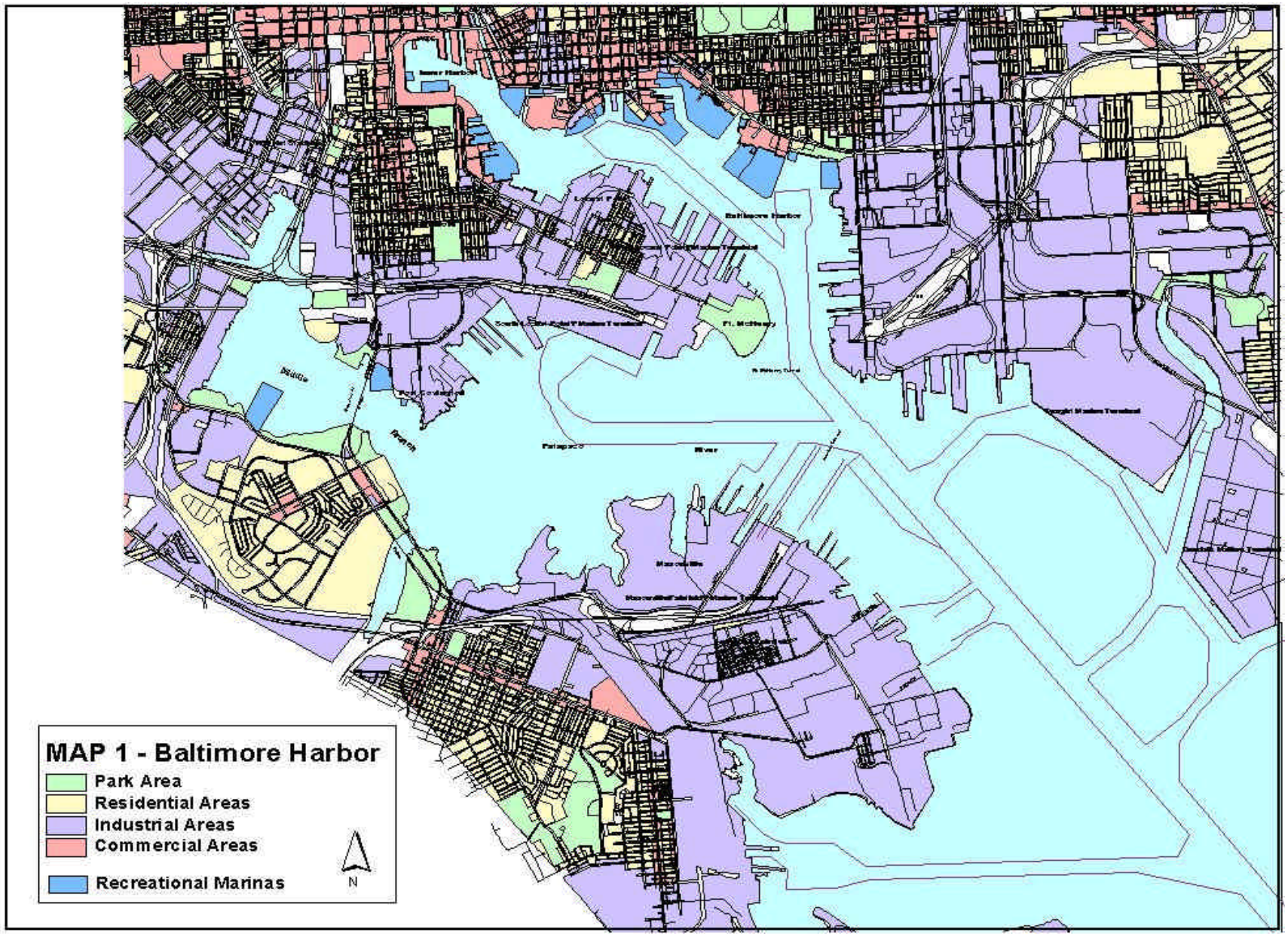
LIST OF FIGURES

Introduction

Baltimore's Harbor is one of our greatest jewels, attracting millions of visitors each year from across the region and around the world. The Harbor has always been a central force in Baltimore history, functioning as a major port for international shipping and boat building for almost 300 years. Its history as a working port began changing during the 1950's, when American industry began to move abroad, and fundamental changes occurred in the structure of commercial shipping. In the early 70's, the Harbor's beauty and vitality began to attract developers, residents, tourists and recreational boaters in ever-increasing numbers. And yet the Harbor continues to hold on to its history as well, providing precious deep-water resources to viable commercial shipping businesses. As all of these interests increasingly competed for the same limited resource in the 1980's, it became evident that a balance had to be struck to allow each of these economic development generators to coexist on the water, while maximizing safety. The Marina Master Plan was originally created in 1985 to provide a framework for responsible management of the Harbor. Its goal was to allow access to the water by recreational boaters while protecting and allowing for growth of the commercial shipping industry in Baltimore's Harbor; and to accomplish these while maximizing navigational safety for all users of the Harbor. *(See Map 1 – Baltimore Harbor)*

History

Baltimore's deep-water Harbor exceeds seven square miles and is located about seven nautical miles from the main stem of the Chesapeake Bay. Fifty-two miles of shoreline line the water's edge, where, in earlier days, the proliferation of finger-piers and multi-level warehouses serviced the port's industrial and shipping interests which fueled the City's economy for centuries. In the 1970's, the shipping industry began abandoning some of the traditional waterfront locations in favor of new sites with spacious land areas for storing containerized cargo and automobile imports, leaving behind abandoned buildings and crumbling piers. These were not only useless to the City's economy, but were eyesores and safety hazards as well. This condition would not remain for long, as


MAP 1 - Baltimore Harbor
Park Area
Residential Areas
Industrial Areas
Commercial Areas
Recreational Marinas
N

visionaries began to recognize the vast potential of the waterfront to the City's redevelopment efforts and began to revitalize downtown from the Harbor's edge. As these efforts met success and more people began visiting the Harbor, it was inevitable that they would come by boat and that recreational boating would soon take its place along with commercial shipping as a primary user of this vital natural resource.

In 1981, fewer than 400 marina slips were located in the entire Harbor. By 1984, more than 700 new slips had been built and 1,000 additional slips had been approved for construction by the Army Corps of Engineers and the State of Maryland. An additional 1,500 slips were proposed, primarily in the Fells Point and Canton sections of the Patapsco River's Northwest Branch. Clearly, recreational boating had become a permanent and important part of the Harbor's future.

The 1985 Marina Master Plan

To manage this new phenomenon, the City adopted its first Marina Master Plan in 1985. The Plan identified three goals:

- ✓ To encourage the orderly development of marinas to complement the mixed-use development that was underway in the Inner Harbor, Canton and Fells Point;
- ✓ To minimize the potential for navigational conflicts between commercial and recreational vessels; and
- ✓ To discourage recreational marina development at waterfront properties having deep water access better used for commercial and shipping redevelopment.

The 1985 Plan created an overlay district which identified where marinas could be located, where they were prohibited, and the maximum water coverage allowed. It also revised the City's Zoning Ordinance to require public review of marina development proposals to assure that such proposals conformed to the Marina Master Plan and that they provided required ancillary services such as parking and public water access. Marinas became conditional uses in all zoning districts requiring a hearing of the Board of Municipal and Zoning Appeals.

The 1989 Marina Master Plan Revision

After the 1985 adoption of the first Plan, frequent formal amendments and the ensuing discussions led to its comprehensive revision in 1989. The revisions were substantial and wide-ranging, and intended to be broad enough to accommodate marina growth for at least five years. One of the major differences from the original plan was the creation in 1989 of definitions for inclusion into the City's Zoning Ordinance. Formerly only identified as "marinas" in the zoning ordinance, the new definitions distinguished between boating facilities, recognizing that each generated varying types and intensity of activities. These definitions were immensely helpful in removing ambiguities that had existed prior to the 1989 update.

The 1989 Plan also defined the boundaries that it regulated and provided a set of maps designating marina locations. Shipping channels were strictly protected as were visual and physical access corridors. The plan called for increased boater education about the Harbor and about potential navigational hazards related to shipping; parking requirements were strengthened; and environmental requirements were incorporated from the City's Critical Area Management Program to mitigate pollution from increased boat traffic and wastes.

Current Update

More than ten years have passed since the Marina Master Plan was last revised. Development talked about in that plan is either completed or long since abandoned. The Harbor's popularity has continued to grow, causing even further congestion than there was a decade ago. The demands on the Harbor have gone far beyond traditional recreational boating, to include requests for tourism and transportation by large excursion vessels, historic ships, seaplanes and helicopters, kayaks and canoes, and personal watercraft. At the same time, it is critical that commercial shipping keeps its tenuous hold on deep-water areas and waterfront commerce. Management of the many interests at the water's edge has become of paramount importance to the City's well being. Realizing the need to take a fresh look at the Harbor's future, Mayor Martin O'Malley charged the Planning Department with updating the Marina Master Plan. It is important that the original goals of the 1989 Plan are included and expanded to address these

new issues. This effort also recognizes that although control of marina development is a critical component to preserving safety and navigational open space in the Harbor, many other factors also need to be incorporated into the Plan. Reflecting this broader focus, this update is renamed *The 2002 Baltimore Harbor Master Plan.*

Section 1 - Background and Process

The Technical Advisory Committee (TAC)

When Mayor Martin O'Malley charged the Planning Department with updating the Marina Master Plan for the first time since 1989, he envisioned an inclusive yet straightforward process that would move quickly while allowing input from Harbor users as well as nearby residents and other interested participants.

As his predecessors had done in the 1980's, the Mayor asked the Department of Planning to select the membership of the TAC. The resulting committee is made up of marine professionals including The United States Army Corps of Engineers, the United States Coast Guard, the Maryland Port Administration, commercial and recreational boating representatives, water-based business owners, appropriate City agencies, and others. *(See Appendix 1 for a complete list of participants)* The TAC first came together in May of 2001. They began by updating the goals and objectives of the plan, based on their knowledge of the Harbor – both anecdotal and documented. The group reviewed existing conditions, laws, a boat traffic study completed by consultants, and other contextual information in preparation for hearing amendments. Finally, the TAC articulated a process that would allow for submission and review of proposed amendments by the general public and provided two public forums to collect community input on the proposed amendments.

Current Conditions

While the 1989 revision was significant in its clarification of marina definitions, its regulations did not cover all of the types of marine uses. By definition, it focused mainly on recreational and industrial marinas, without consideration for personal watercraft, excursion vessels, private piers and a host of additional navigational hazards, which existed in 1989 and have increased substantially since then. The continuing swell of recreational vehicles has now been joined by the addition of sailing schools and sailboat races, kayak clubs, and a second water shuttle service. The number of large boats servicing the tourist industry has also increased and will continue to do so. A number of historic vessels have expressed the desire to locate in or near the Inner

Harbor, and The Maryland Port Administration and developers are searching for the appropriate location to relocate a cruise ship terminal. Visiting ships and events increase each year, and charter boat sightseeing demands rise. Different types of requests are also on the rise. Proposals exist for sightseeing planes and helicopters to be located on and fly over the Harbor. Recent security efforts have focused on the Harbor. All of this growth and activity generates a greater need to insure safety on the water by additional maintenance and support activity. It also creates a potential threat to industrial/commercial shipping, and increases environmental impacts.

Table 1 – Areas to be Updated in 2002 Plan

Docking locations for water taxies
Small water craft pathways/water trails for kayaks and canoes
Regulations for paddle boats
View protection corridors
Boat launches
Boat tie-up areas
Charter boat locations
Docking locations and issues associated with cruise ships, historic vessels, special events and public docking space
Seaplanes and heliports
Land-based impediments to marina navigation and impacts on existing marinas
Organized management of the Harbor area
Enforcement of boating rules and regulations

As the Harbor's popularity grows, so, too, do the problems generated by that popularity and increased use. The Harbor is beset by challenges including decreased availability of commercial piers, deep-water piers, public docking space and available anchorages, as well as decreases in personnel and craft to enforce the regulations and manage new proposals and activities. Despite the large increases of people who are now in contact with the Harbor water daily, no testing or warning system exists to notify users of potential environmental hazards.

These issues, and the challenges presented to manage them as well as to anticipate new conditions that may arise over the next five years, led the Planning Department to join with the Harbor businesses, users, and other stakeholders to form the TAC and update the Plan.

Goals of the 2002 Baltimore Harbor Master Plan

The primary goal of the Plan is to provide a framework for the safe and environmentally responsible management of competing interests in Baltimore's Harbor in order to control growth

of the recreational boating industry while protecting the integrity and growth of commercial shipping and industry in the Port of Baltimore. A number of very specific objectives stem from this overall goal which include:

Recreational Boating/Commercial Shipping

- ✓ Separate commercial and recreational activities in the Harbor to the extent necessary and possible.
- ✓ Consider the appropriate boat slip capacity and recommend a maximum for each site.
- ✓ Minimize the potential for boating accidents.
- ✓ Minimize congestion.
- ✓ Safeguard areas of present and future commercial port development.
- ✓ Optimize economic benefit to the City of both recreational boating and commercial shipping.
- ✓ Accommodate repair, service and storage facilities for recreational and commercial vessels.
- ✓ Promote programs that educate recreational boaters about commercial shipping and boating safety.
- ✓ Develop appropriate criteria for location and design of marinas and other recreational boating activities and tourist activities.

Related priorities

- ✓ Preserve water access and water views.
- ✓ Protect the environment from pollutants and ensure State and federal regulations are adhered to in a manner consistent with the unique characteristics of the Harbor.
- ✓ Protect the proper operation of and accessibility to storm drains and other utilities.
- ✓ Provide adequate access for police and fire services.
- ✓ Assure adequate parking and other land-side needs.
- ✓ Define management responsibilities for the Harbor and management tools for special events.

- ✓ Evaluate appropriateness of seaplanes and heliports on the water.
- ✓ Develop and adopt appropriate regulations to enforce the rules of navigational safety and management of the Harbor area.
- ✓ Propose additional appropriate uses for the currently-underutilized Middle Branch of the Patapsco River.
- ✓ Optimize economic benefits to the City of both recreational boating and commercial shipping.

The process to address this ambitious set of objectives took over a year to complete. This document outlines the recommendations that resulted from this intensive process.

Format

The document is divided into three sections.

- ***Section 1- Background and Process,*** describes the process used and the participants who worked together to determine the regulations outlined in the updated Plan.
- ***Section 2 – Harbor-Wide Conditions and Recommendations by Category, describes*** in more detail the conditions that currently exist in the Harbor and outlines recommended policy and management changes to address those conditions.
- ***Section 3 – Detailed Recommendations by Location,*** applies those policies to specific areas of the Harbor in detail. Throughout the document, related charts and maps clarify regulations and boundaries discussed.

Amendment Review Process

The TAC invited interested parties to submit and present proposed amendments to the existing Marina Master Plan. Fifteen amendments were submitted covering wide-ranging interests, including establishing or expanding marinas, altering pier head lines, constructing bridges and/or docks in public navigational spaces, and developing a cruise ship terminal. Applicants presented their amendments in person to the TAC, allowing TAC members to ask questions. The public

also had the opportunity to comment on proposed amendments at two public forums. Following discussions with the applicants and with the public, the TAC carefully reviewed each amendment using a set of criteria, developed from the articulated goals and objectives of the Plan. This *draft* document presents the TAC policy recommendations for the Baltimore Harbor over the next five to ten years. Approved amendments are incorporated into the plan; all amendments including those that were denied, are listed in ***Appendix II***. This *draft* is being circulated among the public, appropriate public agencies and others who may be interested in commenting. After the review period, the TAC will finalize the recommendations and present them to the Baltimore City Planning Commission for adoption.

Community Input

The Baltimore Harbor is a resource for use by all the citizens of Baltimore. For this reason, every effort has been made to enable public input from the beginning of this process and continuing through adoption of The 2002 Baltimore Harbor Master Plan.

The TAC's work was reviewed and informed by input from citizens at two public meetings. The City made a determined attempt to invite and encourage all interested parties to attend these forums. Waterfront property owners, community organizations surrounding the Harbor and marinas were contacted. In addition, separate presentations were made by City staff to community organizations surrounding the water at their regularly scheduled meetings. This *draft* of the revised Plan will also be circulated among the public and a final opportunity for input will be available at the Planning Commission hearing.

Section 2 – Harbor-wide Conditions and Recommendations by Category

A. Harbor Management Issues

With so many and varied activities packed into one small venue, strong management is a vital component to the Harbor functioning in a way that maximizes safety for all those who recreate, walk, work or conduct business on the water and its edges. But confusing rules, split responsibilities and limited budgets for enforcement have weakened management of Baltimore's Harbor in recent years, exacerbating the potential for conflicts and possibly compromising the safety of the Harbor's users.

Current Conditions

Harbor rules and procedures are articulated in not one, but two separate areas of the Baltimore City Code. Article 10 defines the City's legal management responsibilities at the Harbor. However, Ordinance 141 lists "Rules and Regulations for the Waters of the Inner Harbor" which do not match Article 10. "Recreation and Parks Rules and Regulations" presents a third set of rules governing the Harbor.

In addition, three separate oversight positions are defined in these regulations and in policy documents. The *Harbor Engineer, Harbor Master, and Dock Master* all are charged with duties and responsibility for the Harbor. The Harbor Engineer position has been eliminated. Due to budget constraints, only the Dock Master position has been filled for several years. The Dock Master's responsibilities are limited to collecting fees where appropriate and assisting with coordination for visiting ships. To make up for the lack of central oversight, responsibility for separate areas of the waterfront has been divided and given to agencies already working in those areas on other responsibilities such as real estate, transportation safety and maintenance. No agency currently has responsibility for the Fells Point waterfront. All of these separate City

agencies have their own unique responsibilities, adding to the confused roles and ineffective oversight.

Table 2 Harbor Master Recommended Duties and Responsibilities
Collect docking fees
Coordinate with the Office of Real Estate on waterfront leases and collections
Raise funds for repair and improvement of public waterfront areas and piers through grants and other development efforts
Manage daily boating issues such as illegally docked boats, boat pollution, user conflicts, etc.
Coordinate applicable activities with the United States Coast Guard, State Department of Natural Resources, Fire Department, and Police Department.
Enforce boating safety regulations.
Schedule and coordinate visiting ships and boats.
Coordinate special events working with the Baltimore Office of Promotion and others.
Staff the Inner Harbor Task Force.
Coordinate navigational space between commercial and recreational boating.
Coordinate expansion of the Harbor boundaries by encouraging use of the Middle Branch and other underutilized spaces in Baltimore's Harbor.

In an attempt to provide more coordinated oversight, the City created the Inner Harbor Task Force in the 1990's, comprised of agency heads of all Departments having some jurisdiction and/or responsibility in the Harbor. That group has endeavored in recent years to make sound, consistent decisions regarding development and use of the Harbor area. However, their success has been limited by the absence of formal policy criteria or guidelines for the Task Force to use as a framework for decision making; by the participants' lack of formal training in navigational or boating safety issues; and by their inability to meet more often than once each month due to busy schedules.

Recommendations

1) Create a Harbor Master position responsible for all maritime related issues for the entire Harbor.
   - This position should report directly to staff in the Mayor's Office. This is necessary because of the high level of decisions made along the waterfront and the people doing business there.
   - The Harbor Master should have staff to assist with the work to be completed, utilize the existing staff in the Dock Master's office, and should be charged with those duties and recommendations outlined in Table 2.

2) Update membership of the Inner Harbor Task Force and redefine the group's purpose. Members should be added who have direct nautical and navigational experience. The new Task Force should utilize the guidelines set forth in this document, and the Inner

Harbor Master Plan being developed by the Baltimore Development Corporation, to assist in making decisions that are consistent and that contribute to the Harbor's sound future without sacrificing safety. The Task Force should only make decisions regarding broad policy for the Harbor, leaving the day-to-day operations and interpretation of that policy to the Harbor Master. The Harbor Master will staff the Task Force, providing analysis and recommendations for all policy changes under consideration. In addition, a separate sub-committee of navigation experts should be established to provide a resource to the Harbor Master and to the Inner Harbor Task Force as necessary. Among other issues, this subcommittee will review every pier head line change and requests for new marinas and work with the Harbor Master to make formal recommendations to the Task Force.

3) The Existing City Code, Ordinances and Rules governing the Harbor should be consolidated to create one cohesive set of regulations that is easily understood and strictly enforced.

B. Boating Traffic Volume and Navigational Safety

Current Conditions

As part of this update to the 1989 Baltimore City Marina Master Plan, Moffatt & Nichol Engineers performed a Marine Traffic Study. The purpose of the study was to determine the existing marine traffic conditions, to evaluate the proposed amendments' impacts on marine traffic, and to determine the capacity of Baltimore Harbor to accommodate boating traffic, especially mixing commercial and recreational vessels.

The boat traffic study used video tape and traffic counts. First, a sixteen-hour video tape recorded boating activity in the Inner Harbor Basin. Second, marine vessels were counted by type over a period of thirteen hours on three days, at five different locations around the Harbor. The detailed results of this study are available in a separate report entitled *Baltimore Harbor*

Master Plan Marine Traffic Study, and can be requested separately from the Department of Planning.

Marine Video

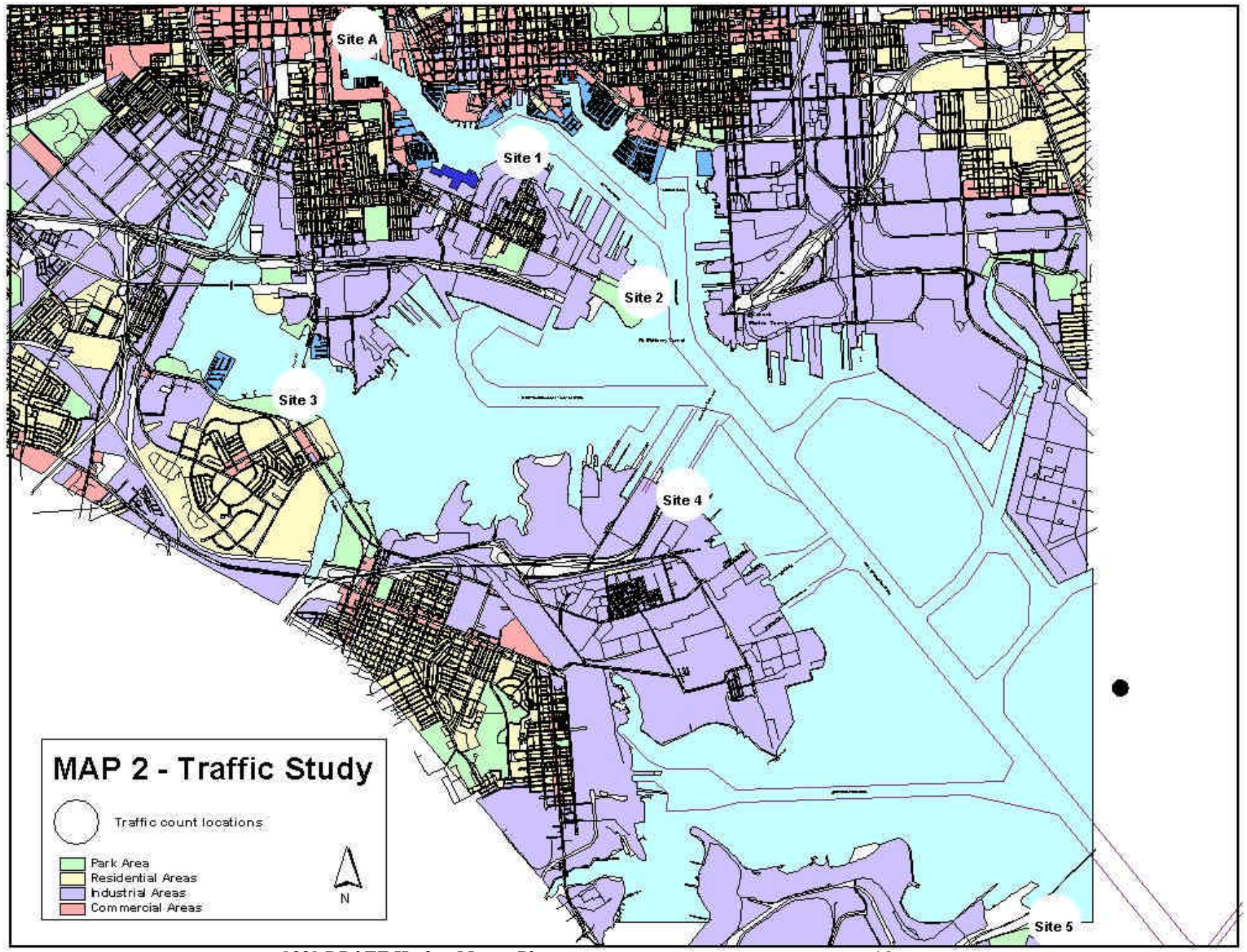
On Saturday, August 17, 2001, a sixteen-hour video was taken of the Inner Harbor Basin from 6:00 a.m. to 10:00 p.m. The camera was mounted on the 20th floor of the World Trade Center and focused on activities in the space parallel to the west wall, between Rash Field and the World Trade Center building. The video documented high boating activity and congested marine traffic. The congestion was created by the two water shuttle services (Seaport Taxi and Water Taxi) converging at the Inner Harbor Amphitheater stops (Pier No. 1, USS Constellation); by visiting recreational boats; and by paddleboats. The video also showed boats traveling too close to one another, boats stopping to avoid collisions, and paddleboats operating outside of their safety area. Land-side pedestrian congestion near the Inner Harbor Amphitheater was created by the location of the water shuttle stops. Customers queuing to board or disembarking the water shuttles conflicted with the pedestrian flow along the promenade.

Boating Traffic Survey

On Thursday August 23, 2001, Saturday August 25, 2001, and Sunday August 26, 2001, marine vessels were counted at five locations outside of the Inner Harbor. The locations were at Tide Point, Ft. McHenry, Harbor Hospital, Harbor Tunnel Vent Building, and Ft. Armistead. *(See Map 2)* The surveys were conducted from 6:00 a.m. to 7:00 p.m. No congestion or conflicts between the recreational boats, excursion vessels, water shuttles, and commercial vessels were recorded in the study areas. This is because there is still adequate space for vessels to pass one another in these areas. As anticipated, the number and percentage of recreational boats increased on weekends by 55% between the Inner Harbor and Ft. McHenry, and 23% between Ft. McHenry and Ft. Armistead near the Key Bridge. The number of commercial and industrial vessels decreased on the weekend. The number of recreational boats in the Middle Branch of the Patapsco, observed from Harbor Hospital, was the lowest of all of the study areas. On Sunday,

just 376 recreational boats were observed at Harbor Hospital, whereas 1,130 recreational boats were observed at Ft. McHenry, the area of highest vessel movement.

No marine vessel congestion or conflicts were observed outside of the Inner Harbor Basin that would have an adverse impact to the commercial and industrial shipping of Baltimore based on current volume of vessels. The Middle Branch of the Patapsco is an excellent place for passive boating activity due to low boating volumes, but is an underutilized area.


Site A
Site 1
Site 2
Site 3
Site 4
Site 5
MAP 2 - Traffic Study
Traffic count locations
Park Area
Residential Areas
Industrial Areas
Commercial Areas
N

Recommendations

1) Investigate and, where feasible, implement ways to alleviate congestion in the Inner Harbor basin. Some recommended first steps include:

   - Relocate the water shuttle stops from the Inner Harbor amphitheater to the end of the Constellation pier.

   - Control/enforce the paddleboat safety area; place visible water markers to denote the safety area boundary or have personnel patrolling on the water.

   - Establish better control of the recreational boats by creating a management entity with authority to enforce rules.

   - Explore lowering the speed limit within the Inner Harbor basin to four knots per hour due to the heavy congestion in the confined space.

2) Greater Baltimore Harbor has the capacity to accommodate more vessels, provided that the width of the channels is not compromised. It is important to discourage proposals to expand piers beyond the existing approved pier head lines, and to discourage any filling of navigational space with structures such as permanently moored barges. *(See Section H, Pier Head Lines)*

3) The current speed limit is an important component of boating safety in the Baltimore Harbor. The slow speed limit allows the larger vessels to more safely mix with slower moving and smaller vessels such as kayaks and canoes. This speed limit should stay in place or be lowered, and continue to be actively enforced.

4) New piers, marinas or other facilities should not block or create a negative impact on the existing channel marking system, including the range light at Fort McHenry.

5) Marinas shall not extend beyond the pier head or combined pier head/bulkhead line, or be located closer than 400 feet from maintained primary shipping channels, whichever is the greater distance from the shoreline. *(See section H – Pier Head Lines)*

6) A setback of not less than 125 feet from turning basins or secondary channels shall be maintained, with greater area allowed when necessary for the safe maneuvering of commercial vessels.

7) In coves and inlets, between finger piers, and in other confined bodies of water, marinas shall not be constructed in such a manner as to impede access to the main body of water by commercial or recreational boat traffic. Additionally, no pier construction or docking location may interfere with water access of adjacent property owners.

8) The width of access channels shall be five times the average beam of vessels expected to use the channel but no less than 80 feet.

9) Moorings or anchorages outside of breakwaters and wave attenuators shall be restricted in areas where there is heavy congestion or where the facility is located in close proximity to shipping channels. It is necessary that channels not be further restricted by allowing these facilities in such locations.

C. Commercial Shipping

Existing Conditions

The port and its related industries remain a critical part of the City's economy and it must not only be preserved, but be allowed to grow. Port operators and regulators remain concerned about the loss of deep water slips, which directly relates to the increase in waterfront development, marina development, and recreational boating traffic. These were the concerns that led to the original creation and update of the 1985 and 1989 Marina Master Plans. These plans led to limits on marina development in specific areas to safeguard shipping from potential conflicts with recreational boaters and to preserve deep-water access for commercial uses.

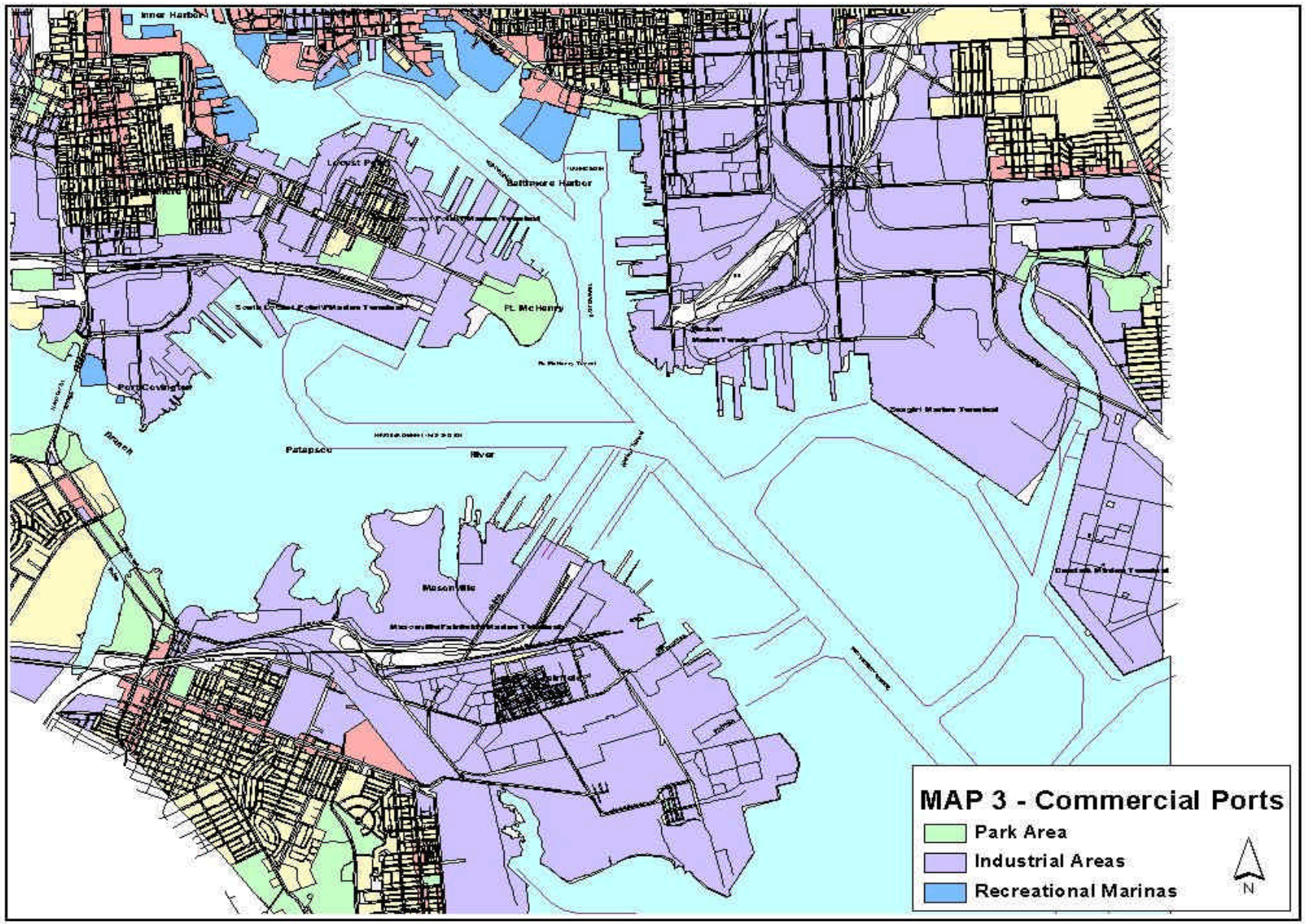
Operators have always been particularly concerned about allowing marinas to be built too close to shipping channels, industrial turning basins and anchorages. Commercial vessels could be liable for damages caused by their wakes and prop wash. It is important to note that a commercial vessel need not collide with a slip or recreational craft to be considered liable for damages.

Commercial shipping has changed in several ways. However, Baltimore is still a viable port and an attractive location for cargo. The overall number of vessels visiting Baltimore's public and private terminals has remained fairly steady over the past decade. The number of vessels calling on some terminals may appear to be less, but this lower number is due to changes in the size of vessels. In the 70's and 80's, the largest vessels were 450 to 700 feet in length. Vessels are now commonly 700 feet to 1,000 feet long, holding a greater amount of cargo and, therefore, requiring fewer calls. The same amount of cargo is moving through our ports. In fact, the Maryland Port Administration and the private sector are concerned that the Baltimore region may be short of available waterfront land suitable for Port uses. It is important to note that port activity requires deep channels and waterfront access; they cannot function inland. This makes it especially important to preserve as much of this available land as possible for the port to maintain its activities. *(See Map 3- Commercial Ports)*

Recommendations

1) Preserve Industrial Protection Zones that were created to protect commercial shipping and waterfront industry.
2) Continue to enforce marina development restrictions that respect turning basins, industrial facilities, shipping channels, and safe distances from large commercial shipping vessels, as well as requiring wave attenuators to minimize risk to marinas and recreational boats from movement of these large vessels.
3) Continue to require and promote education for recreational boaters sharing the water with commercial vessels.

4) Enforce strict guidelines for altering pier head lines as detailed elsewhere in this report.
5) Consider establishing a Waterfront/Port protection zoning classification as part of the Comprehensive Re-Zoning study for Baltimore City.


Inner Harbor
Locust Point
Baltimore Harbor
Ft. McHenry
Port Covington
Patapsco
River
Masonville
MAP 3 - Commercial Ports
Park Area
Industrial Areas
Recreational Marinas
N

D. Marinas

The 1989 Marina Master Plan focused largely on specifically defining different types of marinas, and establishing guidelines for their location as well as suggested parking requirements. The Marina definitions were added to the City Zoning Ordinance. Before defining marinas, the 1989 Plan first created three categories of marine facilities: Shipyard, Private Pier and Marina. The formal definitions created in 1989 are shown below in boxes.

The ***Shipyard*** definition was developed to define the heavy industrial use associated with the traditional activities of ship building and repair, as distinct from uses which serve the recreational boating industry. ***Private Pier*** is defined to accommodate the riparian access rights of property owners. Property owners and industrial users are given more leeway in the use of their property with this designation. Private piers were not regulated in 1989 by the Marinas Master Plan, and will not be regulated by this 2002 Harbor Master Plan. They must, however, obtain the proper State and federal permits for any work in the water. Shipyards and private piers with docking facilities for four or fewer recreational boats are not ***marinas*** under this definition, and would not be governed by this Harbor Master Plan.

Shipyard	Any facility designed and/or used for the manufacture, assembly or repair of ships, barges or boats.
Private Pier	Any facility with four or fewer slips designed and used exclusively for private, non-commercial purposes by the riparian property owner.
Marina	Any facility designed to moor, berth, or launch five or more recreational water craft as wither a principal or accessory use.

Within the categories, further definition was given to marinas, dividing these into three types: recreational, industrial and dry storage (boatel). These categories and their definitions are still relevant and are discussed in detail in each section below.

Recreational Marinas

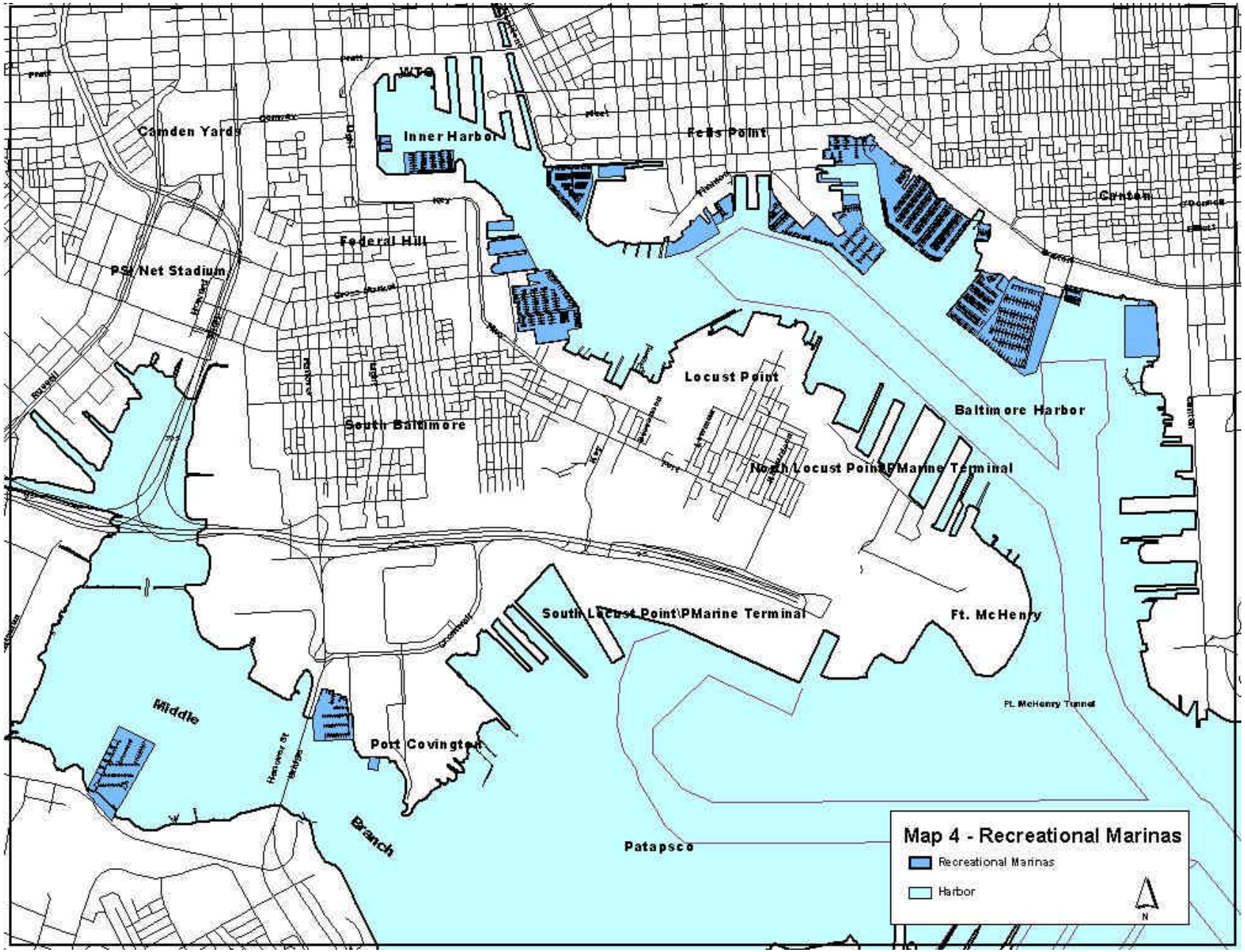
Recreational Marina	Any facility that provides for the leasing or selling of five or more in-water moorings or slips for recreational boats.

Existing Conditions

Over 3,000 boat slips exist throughout the Harbor in 24 recreational marinas. More than 650 additional sites are permitted *(see Table 3)*. All of these boaters contribute to Harbor marine traffic, and environmental degradation of water quality. The large numbers of boats also create potential navigational hazards by occupying navigational channels. *(See Map 4- Recreational Marinas)*

Table 3 – Number of Boat Slips in Harbor Recreational Marinas - 2001

#	Name	Existing slips	Permitted slips
1	Middle Branch Moorings	340	340
2	Baltimore Yacht Basin	197	197
3	Ferry Bar	0	34
5	Tidewater (Industry)	44	55
6	Harborview Marina I	350	640
7	Harborview Marina II	0	0
8	Inner Harbor Marina	158	158
9	Inner Harbor East	204	252
10	Living Classrooms Marina	48	48
11	Constellation	150	150
12	Brown's Wharf	32	32
13	Harbor's Edge	6	6
14	Belt's Wharf	49	65
15	Henderson's Wharf	300	300
16	Swann's Wharf	26	52
16a	Thames Point	53	53
17	Chester Cove	40	40
18	Bayview	52	52
19	North Shore at Anchorage	0	127
20	Anchorage	576	576
21	Shipyard	20	20
22	Lighthouse Point Marina	488	544
23	Tindeco Wharf	20	20
24	Canton Cove	30	30
25	Ritz Carlton Marina	0	13
26	Canton Crossing Marina	0	200
27	Union Wharf	0	52
	Total Slips	**3183**	**4056**


WTC
Camden Yards
Inner Harbor
Fells Point
Canton
Federal Hill
PSI Net Stadium
Locust Point
Baltimore Harbor
South Baltimore
North Locust Point\PMarine Terminal
South Locust Point\PMarine Terminal
Ft. McHenry
Ft. McHenry Tunnel
Middle
Port Covington
Branch
Patapsco
Map 4 - Recreational Marinas
Recreational Marinas
Harbor
N

One of the challenges of this Plan is to manage the demand for marina slips over the next ten to twenty years and to allow for the "right" number of slips without creating conditions which are hazardous to recreational boating, as well as to commercial shipping. To assist in this determination, the City hired the consulting firm of Moffatt & Nichol Engineers to determine existing boat traffic conditions and to help the TAC determine the Patapsco River basin's capacity for additional recreational boating traffic. To supplement the consultant's findings, the Planning Department also conducted a video analysis of the innermost tip of the Inner Harbor. Among other goals, the video analysis helped to monitor activity at the Inner Harbor's west wall and the Inner Harbor basin. This area has the least amount of navigational space but is also the greatest boater attraction. The video analysis helped identify the level of activity and monitor user conflicts and safety issues. *(For more information on the boating traffic survey, see Section B.)*

Recommendations

1) In reviewing the information available regarding recreational boat traffic and marinas in the Harbor, the TAC determined that the number of vessels was not an issue so much as the available space for the compatible proposed water uses and the view corridors from major land-side streets and locations. Because these major considerations differ depending on location, each marina must be considered and decisions made on a case-by-case basis.

Table 4 – Guidelines for Consideration - New Marina Development
➢ Relationship to adjacent land uses ➢ Relationship to shipping and commercial boating activity ➢ Need/capacity of area to accommodate new marina ➢ Size of proposed marina ➢ Land-based impacts including parking, traffic and noise ➢ Navigational impacts such as turning basins ➢ Relationship to slips approved or existing in the Marina Master Plan ➢ Environmental Impacts from fuel pumps, pump outs, etc. ➢ Relationship to and impacts on existing utilities ➢ Plans for safety and security ➢ Impact on view corridors ➢ Maintenance of Pier Head Line or Marina Master Plan Navigational Safety Line

2) In order to foster consistent review of all proposals, guidelines developed by the TAC were used to review individual proposed amendments *(see Table 4A)*. These guidelines should be used whenever a new recreational marina is proposed.

3) Five amendments were proposed and considered by the TAC. The TAC approved new marinas to be located at Canton Crossing in Canton, Ritz Carlton on Key Highway and Union Wharf in Fells Point. *(See Map 4 Recreational Marinas)* These proposals are discussed in more detail in the specific area recommendations in Section 3.

Industrial Marinas

Industrial Marina (Boat Repair Facility)	Any facility with five or more wet or dry slips (wet or dry) that is constructed solely for the manufacture, assembly and/or repair of commercial water craft less than 120 ft. long or recreational water craft.

In areas designated for industrial marinas, activities such as repair and manufacture of boats are permitted. Sales connected with such repair and manufacture of boats are also permitted. Wet slips and dry storage are allowed as accessory uses to repair and manufacture operations. No sales or leasing of marina slips are allowed. Industrial marina areas may be so designated if the parcel has industrial zoning and the proposed designation of an industrial marina area is compatible with neighboring landside uses.

Existing Conditions

There are two industrial marinas in the Baltimore Harbor: the repair shop at Light House Point in Canton and Tidewater Marina on Key Highway in South Baltimore. General Ship Repair Corporation, adjacent to Tidewater on Key Highway, qualifies as both an industrial marina and a shipyard. All of these facilities meet the requirements of marine repair facilities as set forth in the 1989 Plan.

Recommendations

1) The existing industrial marina and shipyard operations should remain in the Harbor to serve the large number of boats here.

Dry Storage Marina (Boatel)

Dry Storage Marina	Any facility with waterfront access designed and/or used for the lease or sale of dry storage for more than four recreational water craft, in racks or other storage systems.

While they generate a higher level of water activity than industrial marinas, dry storage marinas or boatels may not generate as much boating activity as recreational marinas,

depending on it's location and surrounding land uses. The parking requirements may be less also if they stand alone as part of an industrial marina. This has not been the case at Lighthouse Point, where the Boatel has been part of a larger PUD with commercial, residential and a recreational marina.

Existing Conditions

Only one dry storage marina exists in the Baltimore Harbor at the shipyard at Lighthouse Point. This facility has capacity for 200 boats, and is associated with the Lighthouse Point industrial marina and recreational marina. Dry storage marinas share some of the characteristics of industrial marinas and recreational marinas. Their unique conditions and resulting issues must be addressed before any additional locations can be approved. The 1989 Marina Master Plan identified a comprehensive list of criteria for location and design for dry storage marinas that should be followed for the proper selection of locations for these facilities. *(See Table 5)*

Table 5 – Criteria for Approval
Dry Storage Marinas

Dry Storage Marinas can be so designated if the parcel is zoned M-1, M-2, M-3 (industrial) and the following criteria are met:

- Such designation shall not conflict with the water quality or wildlife habitat objectives of the City's Critical Area Management Program;
- Surrounding land uses shall be such that the dry storage marina facility will not be exposed to significant air emissions, toxic or corrosive discharges, or the open storage of bulk materials;
- The proposed dry storage marina use does not displace an existing deep water use; and
- The proposed dry storage marina does not conflict with nearby water-dependent industrial uses.

In addition, the following requirements must be met for design of dry storage marinas:

- The boatel shall be designed such that the maneuvering of incoming and outcoming recreational boats does not interfere with commercial shipping;
- Adequate channel and fairway area shall be provided to accommodate normal peak boat lift use as well as any other marina activity, if permitted;
- Adequate temporary tie-up space shall be provided to serve peak recovery periods to prevent interference with the free flow of navigation;
- Adequate transportation for boats between the boatel and the water should be provided based on capacity; and
- The boatel structures shall avoid, to the extent possible, the Critical Area Buffer.

E. Kayaks, canoes and other small craft operations and launches

Existing Conditions

Paddling kayaks and canoes is gaining popularity throughout the country as a sport and a relaxing leisure activity. This is also true here in Baltimore, as these much smaller vessels share the most active areas of the Harbor in increasing numbers. While some of these are single users, others like the Baltimore Kayak Club are organized and provide kayaks for club member usage at designated points throughout the Harbor. But these small vessels are slow moving and difficult to see, and therefore create a potential safety hazard. Harbor management and control are needed to allow the clubs and small boaters to operate safely.

A number of other organized boating groups also operate in the Harbor including the paddle boats on the edge of the Pratt Street promenade in front of the World Trade Center, the Baltimore Sailing Center on Key Highway, and the Living Classrooms Foundation sailing programs.

The Small Craft/Recreational Boat Launch Subcommittee of the TAC looked closely at these issues as well as issues particular to boat launches. In their discussion, they noted four particular areas of concern:

- ✓ Education is needed for the operators of the smaller vessels and for the influx of transient vessels. Small craft need to be aware of the shipping channels, where vessels can dock and the speed limits.
- ✓ City budgets are insufficient for boat launch maintenance. Alternative funding sources such as the Maryland Department of Natural Resources need to be explored.

Table 6 – Guidelines for Consideration Small Craft Launch Point Locations

- Compatibility with commercial shipping activity
- Level of safety and education training of small craft users
- Relationship to other launch points
- Need
- Maneuverability and speed of small craft
  - -Paddle boat location is limited to the Inner Harbor Basin and must have enclosed navigational space
  - -Proper water safety personnel or "chase boats" must be provided for these operations
- Use of Jet Skis is discouraged
- Jet Ski operations are prohibited
- Water Quality

- ✓ The Middle Branch is home to a boat launch area which is underutilized.
- ✓ Fort Smallwood Park, owned by the City but located in Anne Arundel County, would be a good alternative location for a boat launch giving access to the Harbor without congesting it more. However, public facilities and especially restrooms are needed to make this a desirable site.

Recommendations

1) No official launch points should be located on City-owned piers except where there are already identified public boat launches. Kayaks and canoes should be treated like all other boats, and dock in available areas in existing identified public docking spaces. The public piers and promenade are for everyone. Allotting a special spot for one type of vessel or a private club is against recommended policy. All available promenade space should be reserved for pedestrians.
2) Private Kayak Club Docking and Operations: Whatever the Kayak Club can work out with private property owners is acceptable. Kayak and canoe docking should not be located on piers with water shuttle stops for safety reasons. The Kayak Club and small craft should avoid all areas with shipping, heavy recreational boat traffic, water shuttle stops and shipping channels. If these areas must be traversed, small craft should spend as little time as possible in these areas.
3) The TAC commends the Kayak Club on its training program for members regarding craft use and safety. This should continue and be refined based on TAC recommendations. The kayak and canoe clubs should further refer to United States Coast Guard and Maryland Department of Natural Resources safety codes to update their safety regulations and recommendations as needed.
4) The TAC suggests the Kayak Club explore expanding into the Middle Branch of the Patapsco River. It is much safer for small craft and is currently underutilized for boating activity.

5) In order to assure fair and consistent review of small craft operations and launch points in the Harbor, the TAC developed guidelines for reviewing these operations individually. *(See Table 6)*

F. Water shuttles, excursion vessels and other tourist movement vessels

Existing Conditions

In recent years, requests for tourist transit have taken a variety of forms from the water shuttle services to requests for large excursion vessels, seaplanes, helicopters and others.

The water shuttle services are important to pedestrian movement in the harbor. When first created in the mid 70's, the mission of the shuttle service was to move people *beyond* the Harbor to other venues in the City. Since then, the shuttles have provided such ease of movement that they have helped to move the conceptual Harbor boundaries outward as they have connected the Inner Harbor with surrounding areas. Today, water shuttles move about 600,000 people each year, and are the main transportation mode moving people out of the Inner Harbor.

In recent years, however, the Harbor has hosted two water shuttle services instead of one. This requires the operation and maintenance of twenty-eight water taxi stops rather than the fourteen needed to function adequately. The resulting congestion creates unnecessary difficulty in managing Harbor boating traffic. In addition, having two services confuses tourists and creates a glut of boats in the market. At times, both companies operate at less than half capacity. The need for, and ability of, two separate water shuttle services to coexist in the Harbor is a continuing source of discussion and contention.

In addition, the location of stops needs to be reviewed. Locating the water shuttle stops at the amphitheatre in the Inner Harbor basin leads to queuing on the promenade which disrupts pedestrian traffic flows. The limited space in that corner of the Harbor, combined with large

numbers of shuttles, creates an unsafe amount of navigational conflicts. *(See Map 5 – Water Shuttle Stops)*

Other excursion vessels operating in the Harbor in recent years include large tour boats and amphibious vessels which operates as a boat, then leaves the water on wheels to become a land-side tour vehicle. In addition, requests have been made for a seaplane operation and for a heliport site and sightseeing operation. Each of these vessels provides its own challenges to maintaining water and navigational safety, minimizing congestion, and preserving the most attractive qualities of the Harbor. Any requests for such vessels must be reviewed carefully.

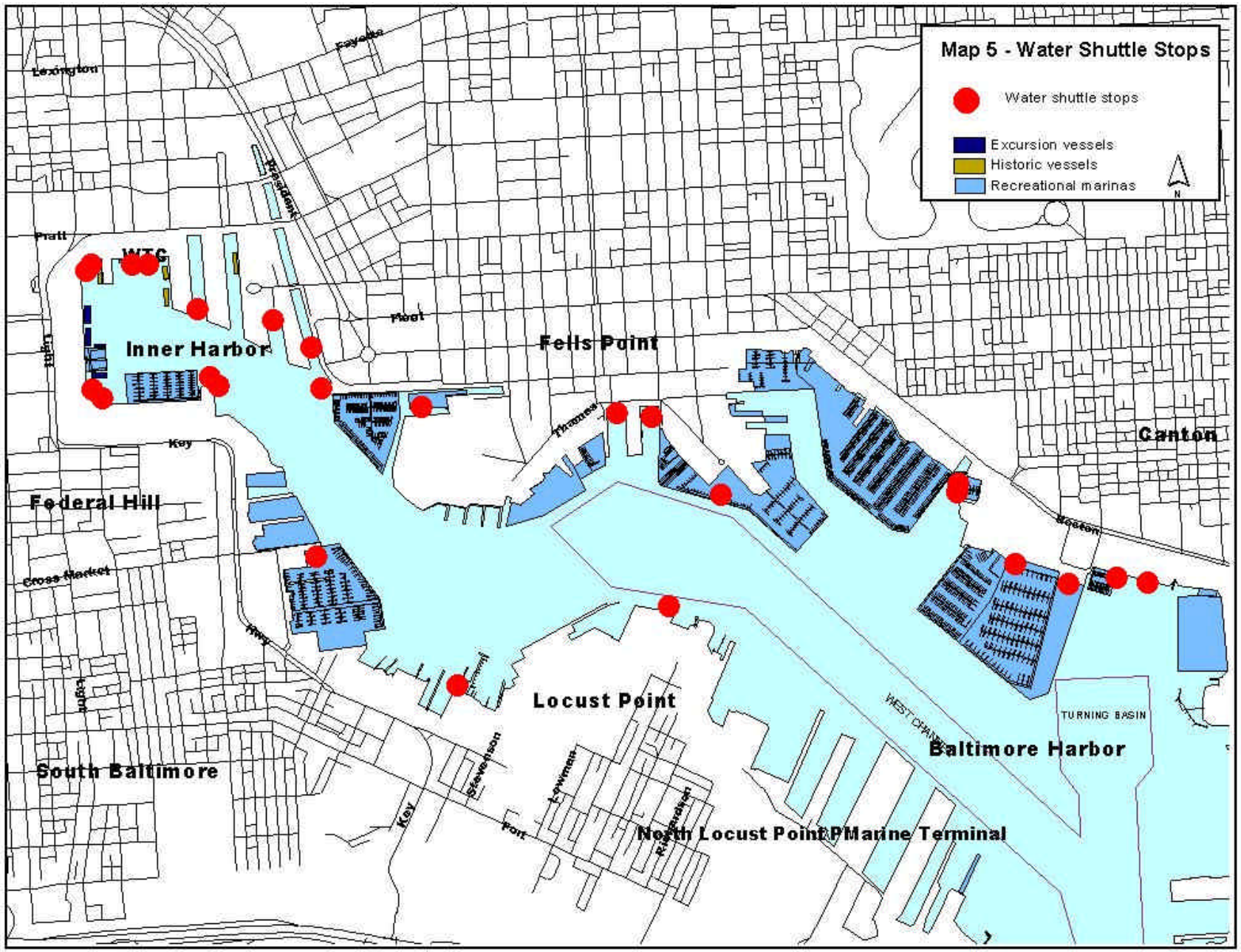
Recommendations

1) A comprehensive review of the water shuttle system should be conducted. This review should develop a clear purpose and vision for the water shuttle system in Baltimore Harbor. This vision will assist the Inner Harbor Task Force and other decision makers in developing appropriate language for wharfage agreements, promoting safety and enforcing rules.
2) Only one water shuttle business should be permitted to operate rather than the two that currently exist.
3) Development of any excursion and transit operations must be scrutinized carefully and decisions made using the guidelines developed by the TAC. *(See Table7)*
4) All new proposed transit, excursion or aircraft operations in the Harbor should require approval by the Inner Harbor Task Force. The Inner Harbor Task Force should review the proposed operation using the guidelines in Table 7.

Table 7 - Guidelines for Consideration Transit/Excursion/Aircraft Operations

- Loading areas and potential conflicts (parking/pedestrian queuing and movements)
- Recreational and industrial land-based conflicts and compatibility
- Purpose of boats i.e. transit, excursion, educational, etc.
- Impact on view corridors
- Number of vessels and frequency of stops
- Navigational hazards in area of stops
- Need for stop
- Safety of proposed facility
- Compliance with wharfage agreements and leases
- Landing/Take-Off Zones (aircraft)
- Noise levels and impacts on surrounding land uses

5) The impact of air craft excursions over neighborhood and other landside uses should also be considered as part of the comprehensive re-zoning study under way for Baltimore City.


Map 5 - Water Shuttle Stops
Water shuttle stops
Excursion vessels
Historic vessels
Recreational marinas
N
Lexington
Fayette
President
Pratt
WTC
Light
Inner Harbor
Fleet
Fells Point
Thames
Canton
Key
Federal Hill
Cross Market
Wolfe
Key
Light
Locust Point
WEST CHANNEL
TURNING BASIN
Baltimore Harbor
South Baltimore
Key
Port
Clinton
Lawrence
Hanover
North Locust Point Marine Terminal

G. Cruise Ship Terminals

Existing Conditions

As Baltimore's Harbor has attracted more and more visitors and businesses, it has also attracted the attention of the tourism industry. Several cruise ship operations have expressed interest in recent years, which increased after September 11, 2001 when companies desired to locate away from their former base in New York City. Baltimore is already a port-of-call for one cruise ship company at the Dundalk Marine Terminal. However, this cruise ship operation needs to be relocated so the Maryland Port Administration can dedicate the space for international cargo.

Among the proposed Master Plan Amendments were three proposals to develop a cruise ship terminal. The sites included the Harbor Point Development in Fells Point (formerly Allied Chemical), Piers 8 and 9 in North Locust Point marine terminal, and Canton Crossing north of the intersection of Clinton and Boston Streets. According to the Maryland Port Administration Cruise Market Study, the Baltimore market can support only one cruise ship terminal. That terminal should be sited in an area convenient to Downtown and tourist venues, have sufficient parking and vehicle access, and pose the least risk for neighborhood impacts. With those goals in mind, the TAC reviewed each proposal, evaluated them with respect to their potential impact on the Baltimore Harbor, and provided a ranking of each. *(See Map 6- Proposed Cruise Ship Terminal Locations)*

North Locust Point Piers:

After review, the TAC found that the proposed locations at North Locust Point Piers 8 and 9 raised significant feasibility questions. North Locust Point is an industrial facility. Shifting part of its use to a passenger terminal would reduce the area remaining for cargo space and create potential conflicts with surrounding commercial industries. In addition, extending a non-industrial use

Table 8 – Guidelines for Consideration – Cruise Ship Terminal Location
➢ Traffic impact on neighborhoods/direct access from highways ➢ Capacity for handling parking in a reasonable way on site ➢ Impact on existing marine infrastructure and marine related maintenance

into an industrial zone conflicts with the stated goals of the Plan. Access to this site is also problematic, requiring extension of Key Highway and an at-grade crossing at the CSX railroad tracks. The only alternative is access through the nearby neighborhoods. Parking is also limited and would require satellite sites throughout the neighborhood.

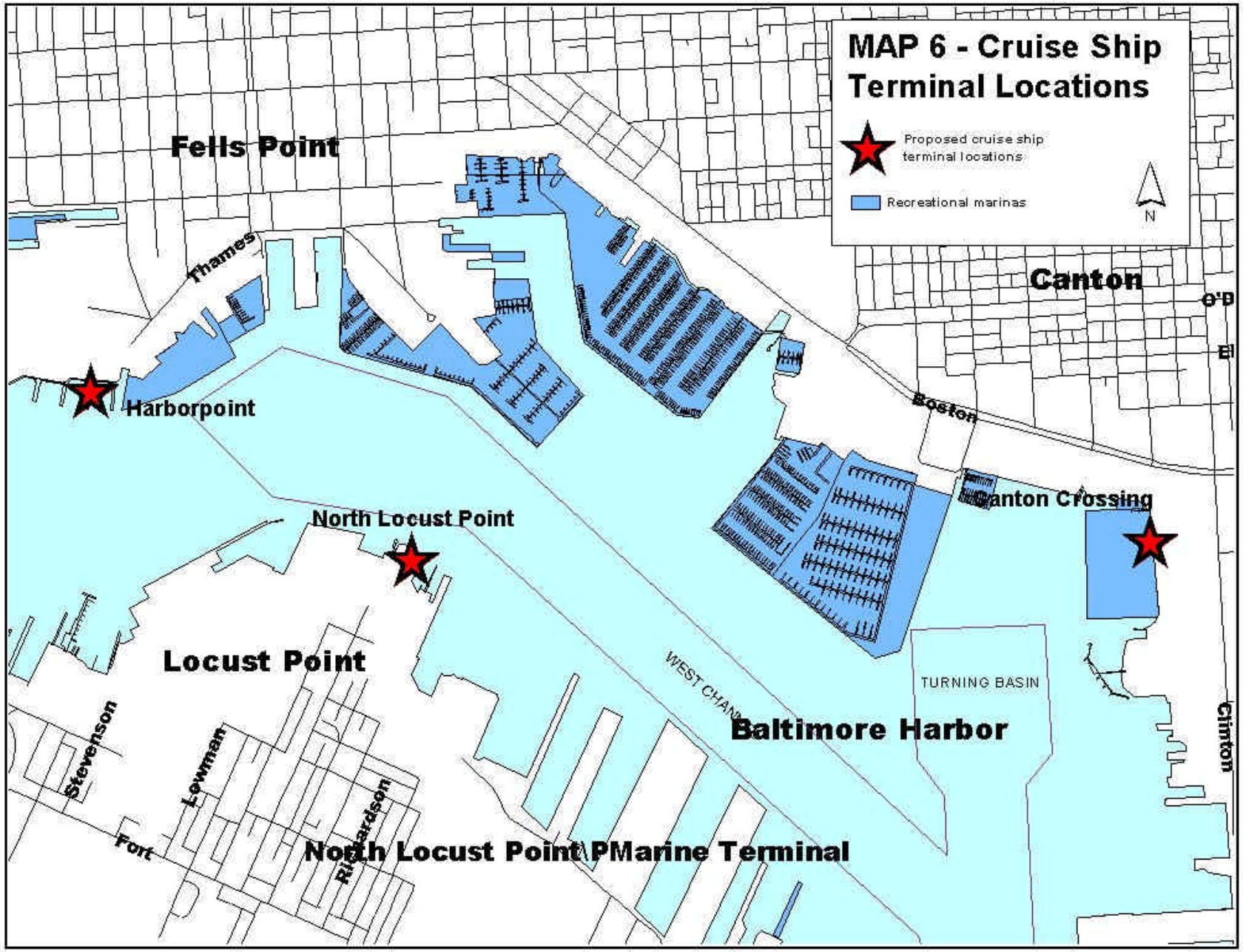
Harbor Point:

Harbor Point presents similar problems to the North Locust Point proposal. A cruise ship terminal at this location would require construction of a vehicular access bridge across an existing marine channel. In addition, the site would require extensive dredging to fit only one ship, and that dredging would have to be constant in order for the site to function. Access is available only through the street system in surrounding neighborhoods, which are already experiencing significant traffic . The terminal would be compatible with the surrounding mixed-use development; however, parking would be at a premium.

Canton Crossing:

Canton Crossing has fewer conflicts than the other two sites. The Canton Crossing Planned Unit Development (PUD) is adjacent to the Apex oil pier. Once repaired, Clinton Street would provide access to the cruise ship terminal directly from I-95 without impact on surrounding neighborhoods. Adequate space is available for parking in this PUD.

The TAC will not recommend any of these sites for a cruise ship terminal. The final location of the cruise ship terminal will be determined by the Maryland Department of Transportation.

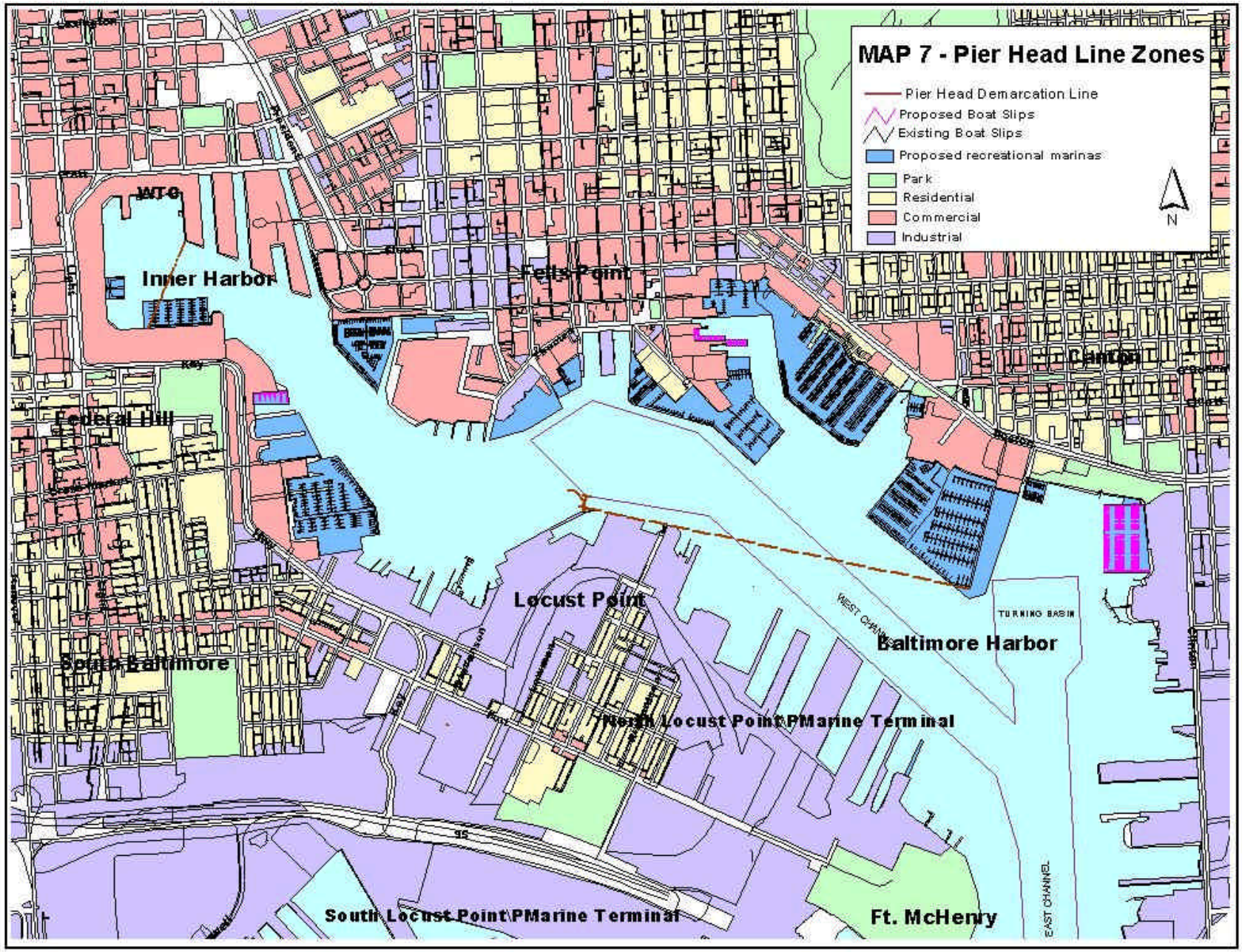

MAP 6 - Cruise Ship Terminal Locations
Proposed cruise ship terminal locations
Recreational marinas
N
Fells Point
Thames
Canton
O'D
E
Harborpoint
Boston
Canton Crossing
North Locust Point
Locust Point
WEST CHANN
TURNING BASIN
Baltimore Harbor
Clinton
Stevenson
Lowman
Fort
Richardson
North Locust Point PMarine Terminal

H. Pier Head Lines

Existing Conditions

Throughout this document, we have emphasized the need to protect navigational space to maximize safety for both recreational boaters and commercial vessels. One tool created to protect this space was the "pier head line," originally established by the Secretary of War in the 1800's to delineate the limit to which a property owner may extend into public waters. It is defined by Article 10 of the Baltimore City Code as "the limiting lines beyond which no structure **shall** extend." The pier head line is shown on the U.S. Army Corps of Engineers map "Pier Head and Bulkhead Lines Baltimore, MD," with the last revised date of September 25, 1968.

Traditionally, the pier head lines could be changed by agreement between the local government, the United States Army Corps of Engineers, and the State of Maryland. The 1989 Marina Master Plan altered the pier head lines for recreational marinas to reflect changes in water use, and allow for better maneuverability. The existing lines have been continually challenged in recent years, as property owners have used creative means for defining the term "structure." For purposes of this report, a pier head line will be considered pierced if any structure extends beyond its limits, including dolphins, permanently moored vessels, or any other floating objects that are intended to be permanent.


MAP 7 - Pier Head Line Zones
Pier Head Demarcation Line
Proposed Boat Slips
Existing Boat Slips
Proposed recreational marinas
Park
Residential
Commercial
Industrial
N
WTC
Inner Harbor
Fells Point
Canton
Federal Hill
Locust Point
Baltimore Harbor
TURNING BASIN
South Baltimore
North Locust Point Marine Terminal
95
South Locust Point Marine Terminal
Ft. McHenry
EAST CHANNEL

Recommendations

1) In considering proposed changes to Pier Head Lines, the TAC recognized that decisions needed to be made on a case-by-case basis, giving consideration to conditions surrounding each property, including use of the surrounding area by recreational boats and commercial vessels.

2) The request for a pier head line extension is similar to a variance request in land use law, and should follow a formal review and decision-making process. the existing pier head line is presumed correct. The TAC has developed clear guidelines to be used in that review. *(see Tables 9 and 10)* Even if the applicant is able to meet these guidelines the City of Baltimore may deny the application if it is in the best interest of the public good.

3) The Harbor has been divided into two districts for considering changes to the pier head line. These districts were chosen based on the volume of boating traffic and available navigational space. The line delineating the two areas bisects the Harbor diagonally, extending from the tip of Lighthouse Point Marina on Boston Street, to the western edge of Domino Sugar on Key Highway, 125 feet from the current shipping channel. *(See Figure 1)* The ***Industrial Shipping Zone*** is the area of the least recreational activity on the east side of the line where most of the industrial activity is focused. This area has more space and more commercial shipping

Table 9 – Guidelines for Consideration Industrial Shipping Zone
➢ Does the proposal directly relate to the needs or "structural" issues particular to the applicant's industry or port shipping?
➢ Does the enforcement of the pier head line deny the applicant rights commonly enjoyed by others at similar properties?
➢ Does the proposal assist with access to deep water channels?
➢ Does the proposal negatively impact safe navigation or marine infrastructure?
➢ Is the request based on conditions or circumstances which are the result of actions by the applicant?
➢ Does the proposal improve navigational safety?
➢ Does the proposed extension have a negative impact on public use of waters of the United States?
➢ Is the request for the extension caused by land or building uses on adjacent properties?

activity. Under certain conditions, puncturing the pier head lines may be acceptable in this area. Table 7 outlines the condition for piercing the pierhead line in this area. The ***Harbor Recreational Safety Zone*** is the area of greatest recreational activity to the west of this line where navigational space is to be strictly protected. This area hosts the greatest concentration of boating activity, two sailing schools, the majority of water shuttle stops, and venues for special events. It has the least amount of space left over for navigational movement and by necessity, the least flexibility in pier head line location. Table 8 outlines the conditions that must be met in order to pierce the pier-head line in this area.

Table 10 – Guidelines for Consideration Pier Head Line Extensions within Harbor Navigational Safety Zone

Inside the Harbor Recreational Safety Zone, the following requirements *must be met* in order for a change in the legal limit for the pier head line to be granted:

- Demonstrate that enforcement of the pier head line rules will deprive the applicant of rights commonly enjoyed by others in similar areas.
- Verify that the granting of the change will not confer on the applicant a special privilege that would be denied to other applicants.
- Show that the request is not based on conditions or circumstances which are the result of actions by the applicant.
- Show that the request does not arise from a condition relating to land or building use, either permitted or nonconforming, on a neighboring property.
- Show that the application for change in the pier head line does not have a negative impact on navigational safety.
- The request must directly relate to structural changes particular to the applicant's industry or activity.

I. Water Quality

Current Conditions

Although Baltimore Harbor water quality has improved since the 1970's, it still has not reached the goals of the Chesapeake Bay Agreement. The major sources of pollution are no longer 'point source' discharges from individual industries, but are instead 'non-point' discharges, such as rainwater run-off from streets and parking lots, and leaks in the City's antiquated sanitary sewer system. Also, despite years of public education, people continue to litter streets. This trash is washed into drainage systems throughout the watershed during storms, and ultimately arrives in Baltimore's Harbor. Trash not only creates unsightly conditions but damages boat engines. It

also inundates healthy wetlands, damaging nature's natural system of cleaning itself, leading to even more pollution. Finally, floatable trash is a major source of complaints from citizens around the Harbor.

Although marinas are not the major source of pollution, they also contribute to water quality problems in a variety of ways. Marinas contribute to non-point pollution through the creation of impervious/non-porous pavement, dust from hull maintenance, solvents from engine repair, petroleum from careless fueling practices and heavy metals from antifouling paints. In addition, point sources of pollution can be released from boat sewerage systems directly into the waterway. Marina design and location can also contribute to environmental degradation by destroying sensitive habitat areas.

Similarly, commercial shipping operations contribute to the degradation of water quality through storage of materials, storm water runoff from vast paved parking and storage areas, and the discharge of tainted bilge water from visiting ships.

Marina and shipping operations require the water to survive; they cannot locate inland. Each benefits significantly by a cleaner, healthier Harbor. Although they are not the major source of pollution, marinas and commercial shipping operations can take responsibility for their part of the problem. If all operations contribute, the cumulative result will be a cleaner, healthier Harbor and Bay.

Recommendations

1) Every industrial and recreational marina should be encouraged to become part of the State of Maryland Clean Marina Program. This voluntary program provides guidelines for Best Management Practices for marinas to adopt that control wastes and storm water run-off for water quality improvements.

2) All recreational marinas should require that people which live aboard their boats enter into a contract with a licensed boat pump-out operation, who will visit the boat and pump out the sewerage on a regular basis. This discourages illicit discharges to the Harbor.
3) All new commercial shipping operations should comply with the Baltimore City Critical Area Management Program and the updated storm water standards. Existing operations should be encouraged to enhance their facilities to comply with these measures.
4) Commercial shipping operations should limit storage of potentially polluting materials outside. If polluting materials are stored outside, operators should follow Maryland Department of the Environment Best Management Practices for control and treatment of run-off. The Baltimore City Critical Area regulation provide detailed requirements to achieve this goal.
5) The City of Baltimore should consider installing and maintaining trash interceptors at major storm water outfalls to collect trash before it enters the Harbor.
6) The City of Baltimore should actively seek funds for restoring and creating wetlands in the Middle Branch of the Patapsco River to capitalize on this natural estuary as an ecological resource.
7) The City of Baltimore should work closely with the U.S. Army Corps of Engineers and the Maryland Port Administration to remove contaminated sediments from the Harbor to stabilize and improve water quality in the long term.

J. Utilities and Fire Safety

Current Conditions

Storm drain outfalls are located in several areas of the Harbor that are near or adjacent to the location of marinas. These not only contribute to the trash problems described above, but in some cases the physical force of the discharged water sinks docked boats and damages the infrastructure surrounding the drain. Pollution from these pipes also causes odor problems that drive people from the water's edge.

Fire fighting in the Harbor can also be problematic. Boats are made of fiberglass or wood, which are highly flammable. The great number of boats increases the possibility for a large fire in or around the Harbor. Like other City agencies, however, the Fire Department has been beset by budget cuts, which reduce staffing and available resources to fight fires. This is especially true on the water, where fire boats have become obsolete and are too expensive to replace. In addition, available stand pipes which provide water access to firefighters at marinas are poorly documented, making it difficult to locate them during emergency situations.

Recommendations

1) Install trash interceptors at large storm drains to catch trash before it enters the Harbor.
2) Continue working with State and City capital budget entities to fund adequate fire fighting equipment for use on and around the water or explore ways that the USCG or State can fill the void in fire fighting capacity with their equipment.
3) The Fire Department should work with the City's GIS system to map all stand pipes and should keep those maps up to date and accessible.
4) Adequate water sources should be available on piers to fight potential fires.
5) No new marina should be constructed in the path of large outfalls unless adequate technology is installed to temper the flow of water.

K. View Corridors

The waters of the Baltimore Harbor belong to the public, and are available to everyone. However use of the water is often limited to those that can afford a boat, or who can pay to ride on a boat. Access to the water should not be limited to those who have access to a boat or who can afford to live in waterfront buildings. This public resource should be protected for all. The best way to do this is by creating waterfront parks where possible and preserving the views of the water and public access points when developing private land.

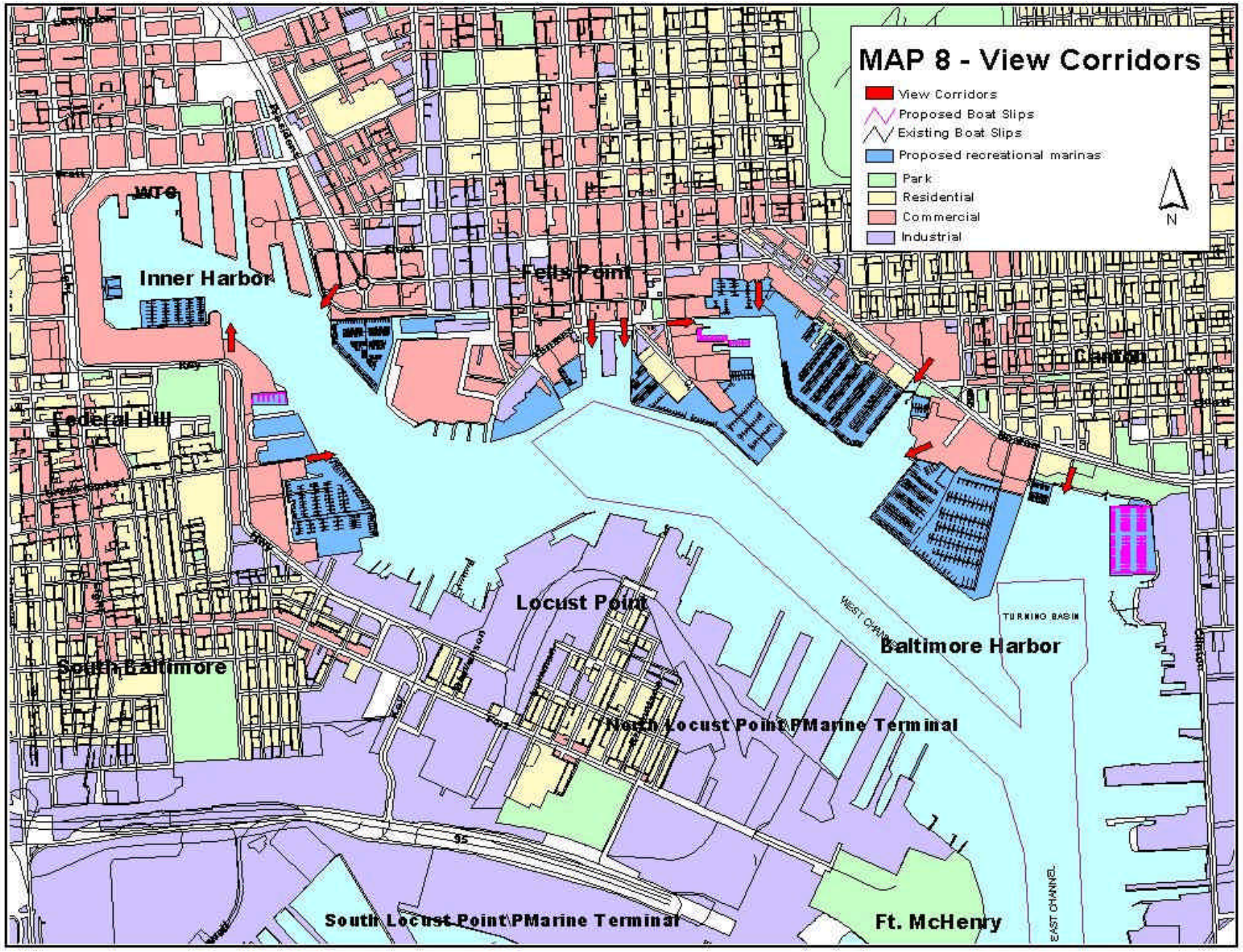
Existing Conditions

Baltimore has made great strides in preserving public access to the waterfront by creating the seven mile waterfront promenade from Canton to South Baltimore. The Inner Harbor Basin, Canton Waterfront Park and Broadway Pier also provide specific locations for public access. However, water-based developments such as marinas, piers and barges create a visual wall between the promenade and the water. Views, and therefore access, are effectively blocked by these developments. Many marinas along the waterfront promenade block views with acres of boats. Recognizing this problem, and the importance of preserving water views, the 1989 Marina Master Plan established view corridors. The Plan recommended organizing land-based developments and marinas so that open water views could be protected to the greatest extent practical. View corridors were established in the Plan, and identified in the official Marina Master Plan maps. *(See Map 8)* Additional views from the neighborhoods were legally protected in the Key Highway, Fells Point and Canton Urban Renewal Plans. Despite the protective view corridors, many buildings and barges have been approved around the Harbor that separate people from connecting to the water in areas not specifically identified for protection. Although the waterfront promenade is an important asset for public access, the neighborhood connection to the waterfront is also historically important, and should be given careful consideration when designing waterfront developments.

Recommendations

1) Consider view corridors when designing marinas. Include openings and vistas in marina design to provide gaps that protect public water views from the promenade.
2) Protect the existing view corridors identified in this Plan and in the approved Urban Renewal Plans. Conduct a comprehensive review of the existing view corridors to assure they are adequately defined and consider adding additional view protection areas.
3) Reduce the number of water-based ships, barges or excursion vessels that are docked or moored in areas of major public access, such as the Inner Harbor and other waterfront parks. These vessels are large and block visual access to the water.

4) Include sufficient view corridors and vistas when designing land based waterfront development to assure visual contact with the water from the neighborhoods behind the development. This is important to maintain Baltimore's historic connection to the waterfront from the neighborhoods. Also consider the views of the development from the water, preventing a 'canyon' effect of large structures up against the waterfront.


MAP 8 - View Corridors
View Corridors
Proposed Boat Slips
Existing Boat Slips
Proposed recreational marinas
Park
Residential
Commercial
Industrial
N
WTC
Inner Harbor
Fells Point
Federal Hill
Locust Point
South Baltimore
Baltimore Harbor
TURNING BASIN
WEST CHANNEL
North Locust Point Marine Terminal
South Locust Point Marine Terminal
Ft. McHenry
EAST CHANNEL
95

Section 3 – Detailed Recommendations by Location

Inner Harbor

Current Conditions

The Inner Harbor, traditionally the focal point of the Baltimore's development resurgence, presents a unique set of problems and opportunities. Marine traffic and congestion are the direct results of the Inner Harbor's success as a retail and recreation center. The National Aquarium, Maryland Science Center, Harborplace, and the redeveloped Power Plant all attract visitors to the Harbor. The Harbor itself attracts pedestrians to the water's edge. All of this activity adds to the vitality of the urban waterfront. The Inner Harbor basin is Baltimore's number one tourist attraction. The City is interested in retaining a high level of activity in this area, provided that it can operate safely. *(See Figure 1)*

Those who visit the Inner Harbor by boat are offered a variety of accommodations. Informal anchorage is provided in the area between Constellation Pier and the National Aquarium. The Dock Master provides tie-ups for transient boaters along the bulkheads of the West Wall and finger piers for a fee. The City-owned and privately-operated Inner Harbor Marina on the southern side of the Inner Harbor Basin provides 158 slips with pump-out and fuel facilities. As the number of long-term facilities around the area has increased, the Inner Harbor Marina has been converted to serve more transient boaters.

The Inner Harbor is heavily congested during peak boating periods. The number and variety of vessels, including paddle boats, water shuttles, tour boats, charter boats and recreational vessels, contribute to a lively mix of activity. Recreational boat traffic is largely composed of boats visiting from outside the Harbor; therefore, regulating slips within the City will do little to reduce the congestion. Compounding the congestion in the basin is the narrowness of the basin's entrance. At its narrowest point (between the end of Pier 4 and the first T-head of the Inner Harbor Marina), the entrance is only 550 feet wide. The most important measure the City can

take is to preserve as much open water as possible to allow the maximum area for movement of commercial and recreational vessels.

Recommendations

1) No new or expanded marinas will be permitted in this sector of the Harbor.
2) The City should continue to provide tie-ups and temporary moorings around all bulkheads not being used as permanent berthing sites to accommodate boaters during peak periods. The number of sites the City leases to private entities should be limited to maximize public docking space.
3) The designated anchorage area in front of the World Trade Center should be limited to its current configuration and permanent mooring buoys should be installed to provide better control of the anchorage.
4) No new structure or vessel should be constructed or permanently located in the basin that conflicts with the goals of the Harbor Master Plan. Such conflicts would include blocking views from the promenade, filling needed navigational space, disrupting existing marine infrastructure, creating additional maintenance problems, and increasing congestion in an already congested area.
5) The TAC reviewed and approved portions of a proposal by the National Aquarium in Baltimore. Pier A will be constructed to function as a small educational pier for students. It was approved under the condition that the size of the pier should be no wider than twenty feet, and water coverage should be minimized. Since the proposed pier is located in an area where boat traffic is already restricted, there should be minimum disruption or conflict.
6) Existing commercial vessels berthed at the Harbor should be limited to those that contribute to the historic character or add other benefits. The number of permanent berths for commercial excursion vessels should be reduced to open views and provide additional space for visiting ships and public docking.

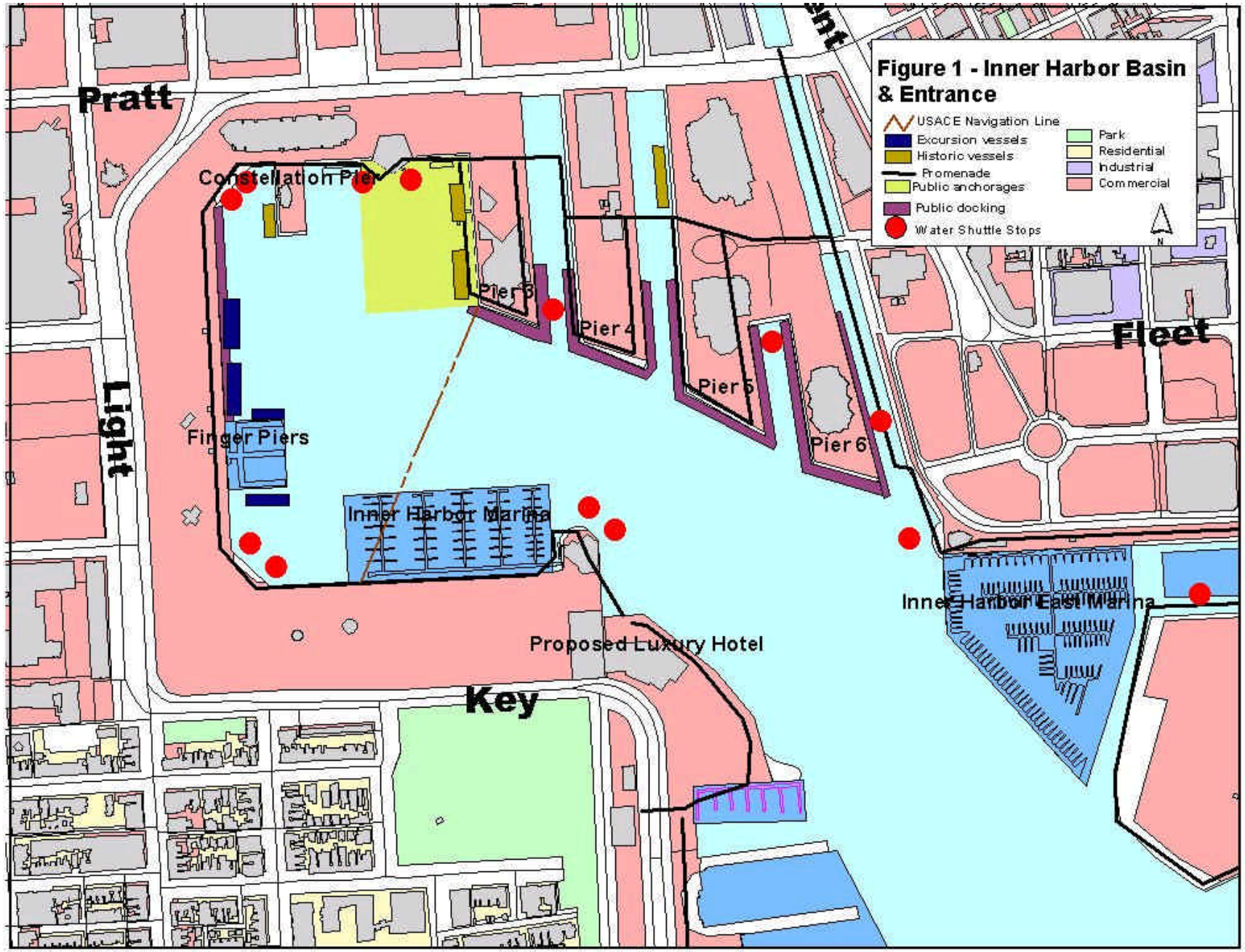


Figure 1 - Inner Harbor Basin & Entrance
USACE Navigation Line
Excursion vessels
Historic vessels
Promenade
Public anchorages
Public docking
Water Shuttle Stops
Park
Residential
Industrial
Commercial
Pratt
Light
Fleet
Key
Constellation Pier
Pier 3
Pier 4
Pier 5
Pier 6
Finger Piers
Inner Harbor Marina
Inner Harbor East Marina
Proposed Luxury Hotel

Inner Harbor East/Key Highway

Existing Conditions

The Inner Harbor East and Key Highway Renewal Areas are located on opposite shores, framing the entry to the Inner Harbor Basin. Though geographically small, Inner Harbor East has played a significant role in the Harbor's mixed-use development as it provides the transition between the Inner Harbor and Fells Point. The area begins at the northern side of the former Allied Chemical site and proceeds west to the mouth of the Jones Falls. While only ten years ago the area was home mainly to light industrial uses, parking, vacant lots and abandoned wharfs, its resurgence in just the past few years has been nothing short of remarkable. *(See Figure 2)*

The Marriott Waterfront Hotel opened its doors in 1991and the area surrounding it has welcomed new offices, restaurants and residential development adding to its vitality and forging stronger links between the Inner Harbor and Fells Point. The former Allied Chemical site will be home to another new mixed-use development, adding to the area's activity. The Maritime Academy, operated by the Living Classrooms Foundation, is located on City Dock between Lancaster Street and the former Allied Chemical site. The Academy's operation is supported in part by an accessory marina with ninety-five transient slips. The Academy trains at-risk children in ship building, woodworking, boat repair, and marina operations. All of these varied activities bring more people to the land and the waters of Inner Harbor East/Key Highway.

Congestion problems in Inner Harbor East must be minimized. Given the confined configuration of the Living Classrooms Maritime Academy, it is important that access to the main channel be preserved for all in the area. It is also essential that marina development in this area not impede navigation to and from the Inner Harbor basin. The Baltimore Harbor Master Plan line along that edge of the harbor restricts marina development and thereby maintains adequate passage. This line should not be changed. Because this area is home to a large and growing number of City residents, it is also important to preserve water views and public access to the waterfront.

On the opposite shore, the Key Highway Urban Renewal Area is located just to the south of the Inner Harbor. The area begins at Federal Hill and proceeds south along the east side of Key Highway to the Fire Department repair yard on Key Highway, adjacent to the Industrial Museum. This area, formerly a shipyard, is now home to the Harborview development which includes a high-rise condominiums and townhouses. North of Harborview, a new hotel with some residential units has been proposed and should be under construction in the next few years.

Recommendations

1) In order to maintain maximum possible width of the access channel to the Inner Harbor, the navigational line of sight must be preserved along the shoreline of Inner Harbor East. That line extends from the bulkhead at the former Allied Chemical site, to the end of Pier 5.
2) The TAC reviewed and approved construction of five finger piers at the Harbor Point development on the former Allied Chemical site. The conditions of approval are:
    a. The piers may not be used for dockage or leasing of long term space for recreational vessels; they must be reserved for larger vessels only. The TAC is not approving a recreational marina at this location.
    b. All boats or ships must vacate the piers for special events that involve fireworks or pyrotechnics. No people may occupy the piers during fireworks or pyrotechnic events. This is a safety requirement of the Baltimore City Fire Department.
    c. The pier design may not obstruct or impede access to the Living Classrooms Foundation marine railway.
3) The northeastern shoreline of the proposed luxury hotel (known as Lot 1 or the Propeller Yard) must be kept free of marina development. This also preserves a clear field of vision for safe navigation into the Inner Harbor.
4) The TAC reviewed and approved an amendment at the Ritz Carlton development on Lot 2 north of Pier A. A thirteen-slip recreational marina was approved with the following conditions:
    a. The marina must be no more than thirteen slips.

b. The marina design must follow Maryland Department of the Environment guidelines for safe docking space, taking into account final plans for the Harborview pier housing development.
c. The Promenade wall many not be used for "Mediterranean-style" tie-ups.
d. The parking requirements for the marina must be met on site.

5) Breakwaters and wave attenuators needed to protect marinas in this area must be constructed *within* the Harbor Master Plan lines. Mooring of water craft on the outside of these structures shall not be permitted.
6) Adequate water access must be assured in the Inner Harbor East area. Any development that takes place along the shoreline of the Inner Harbor East Renewal Area should allow for the maintenance of an 80 foot navigation channel between it and the new Allied bulkhead. This will preserve access to the facilities at the Living Classrooms Foundation marina.
7) A bridge is proposed as part of the Allied redevelopment, called Harbor Point. This proposed structure was rejected by the TAC. However, the TAC understands that land use decisions and marine issues are sometimes at odds. Should the bridge be a necessary component of redevelopment, it must not impede boat traffic nor remove available slips. Any negative impact to the Living Classrooms Maritime Academy use of boats should be mitigated at another suitable location that is approved by the TAC.

Key Highway Industrial Area

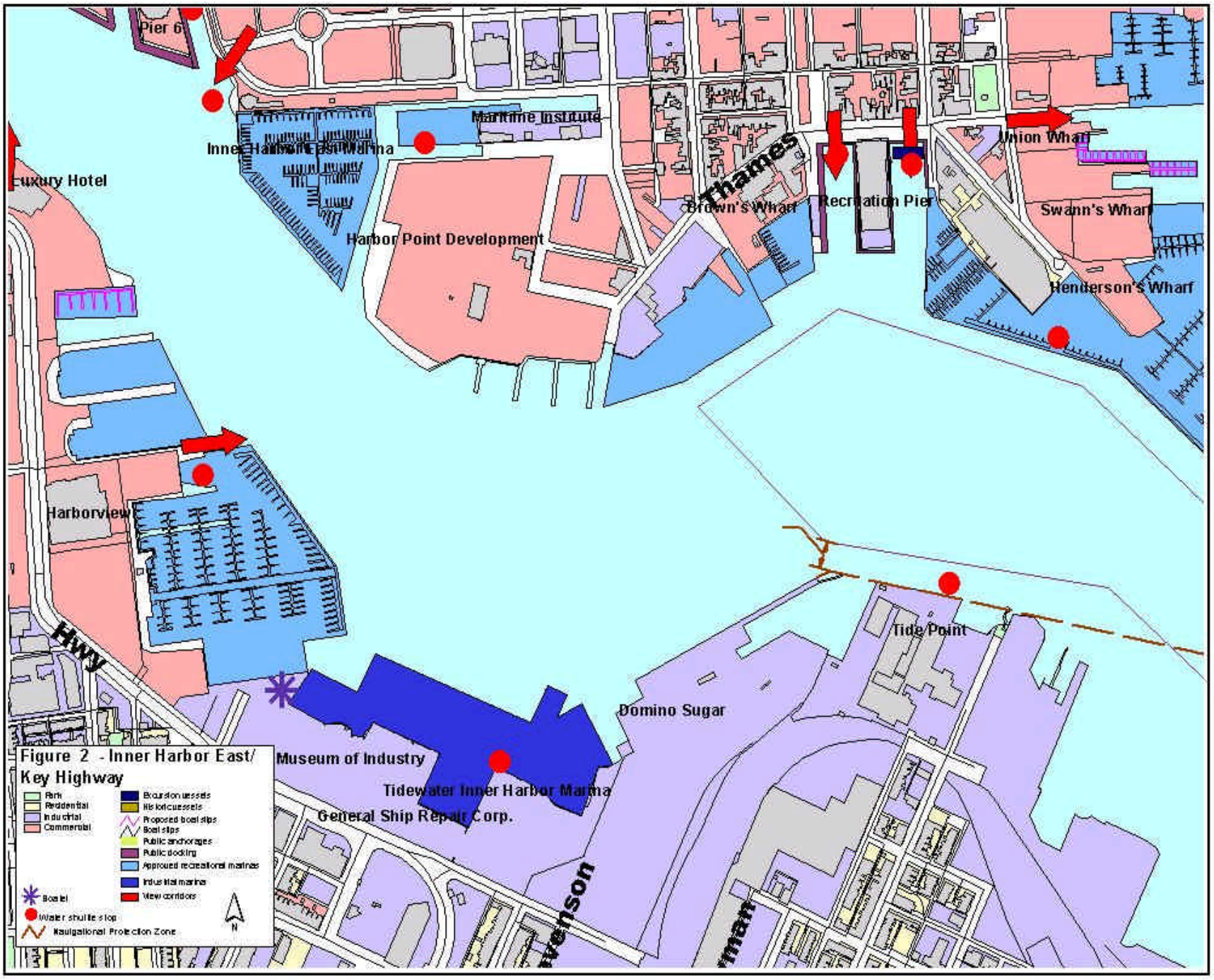
Existing Conditions

The Key Highway Industrial Area begins just south of the Harborview development, running south and east along the shoreline. In the 1989 Marina Master Plan, this area was designated for industrial protection. The Industrial Protection designation was meant to protect this area from land speculation and encroachment by non-industrial uses while Harborview was developed. However, Harborview is about half developed and non-industrial uses have encroached on the western portion of this area, particularly the Museum of Industry, which owns two parcels. The

City is considering selling the Fire Department repair yard; it is unlikely that an industrial use would be proposed for that site. In addition, the Downtown Sailing Center, a sailing education club for adults and children, has located on the Museum of Industry site, even though it does not comply with local zoning. To the east of these parcels, the General Ship Repair Corporation has invested in expansion and improvements, committing to staying in operation for some time. Tidewater Yacht Services has expanded their industrial marina. *(See Figure 2)*

Recommendations

1) The TAC rejected an application by the Downtown Sailing Center to legitimize their marina at this location, upholding the Industrial Protection Zoning at the site. The Baltimore Development Corporation has agreed to study the Industrial Retention Zone with consideration for lifting it from the Museum of Industry site to Harborview. If the area is rezoned to a non-industrial designation, the TAC will reconsider the Downtown Sailing Center application.
2) The TAC also rejected an application for a twelve slip recreational marina at Tide Point. The marina was rejected because the approved Planned Unit Development (PUD) for the site specifically prohibits recreational marinas. If the PUD is successfully amended, the TAC will reconsider the application.
3) For the remainder of this area, from General Ship Repair east, the Industrial Protection Zone should be preserved.


Pier 6
Maritime Institute
Inner Harbor East Marina
Luxury Hotel
Thames
Brown's Wharf
Recreation Pier
Union Wharf
Swann's Wharf
Harbor Point Development
Henderson's Wharf
Harborview
Hwy
Tide Point
Domino Sugar
Museum of Industry
Tidewater Inner Harbor Marina
General Ship Repair Corp.
Figure 2 - Inner Harbor East/ Key Highway
Park
Residential
Industrial
Commercial
Excursion vessels
Historic vessels
Proposed boat slips
Boat slips
Public anchorages
Public docking
Approved recreational marinas
Industrial marina
View corridors
Boat lift
Water shuttle stop
Navigational Protection Zone
N

Fells Point

Existing Conditions

Fells Point is bounded by the former Allied Chemical site on the west and Chester Street on the east. Land side users in Fells Point are predominately mixed residential and commercial. All small industrial pockets that remain from the days when this was a vital part of the shipping and shipbuilding industry are being redeveloped in keeping with the current character of the area. *(See Figure 3)*

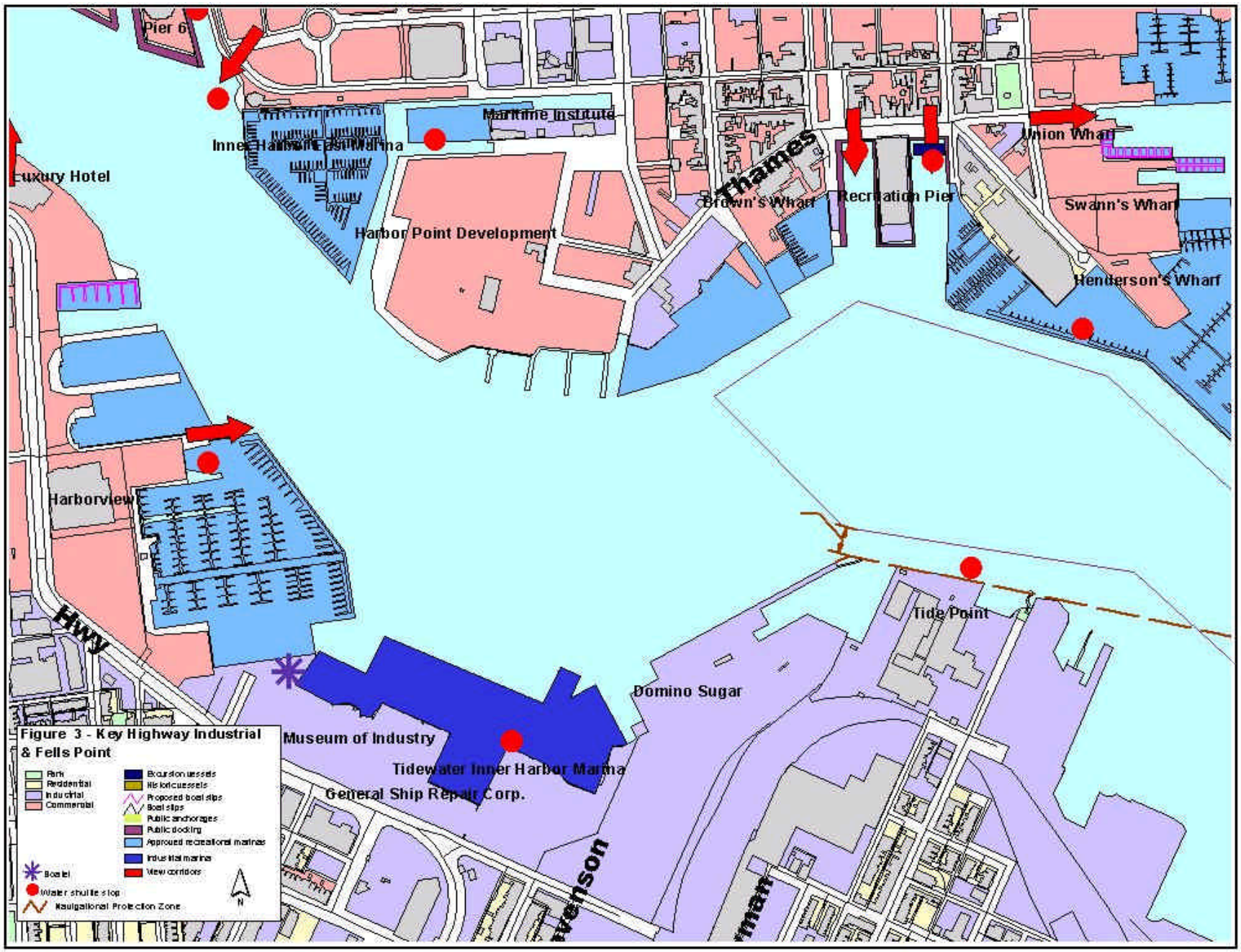
Fells point is home to seven marinas with a total of 749 slips. An additional 202 are permitted, bringing the potential total to 951 slips. The City-owned Recreation Pier is predominately used by tugs and barges under lease agreements with the City. *(See Figure 5)* This pier is in need of extensive repair and has only marginal use for City government today. The Department of Housing and Community Development has advertised this site for sale or lease, requesting development proposals from private entities.

The Fells Point Urban Renewal Plan establishes clear guidelines for development that preserve existing public access corridors and provide for new ones. Safety and navigation concerns in Fells Point include the need for access to and from Chester Cove (located near the intersection of Aliceanna and Boston Streets) and prescribed setbacks distances from the turning basins used by commercial shipping. Access to Chester Cove is limited due to the construction of marinas on both sides of the inlet. A 300-foot channel was established in the first Marina Master Plan to serve barges used by Arundel Corporation for its concrete batching operation. Though the operation no longer exists, the channel should remain to preserve the free flow of boat traffic to and from the existing and proposed marinas. Tie-ups outside of breakwaters and wave attenuators tend to narrow this channel. Impediment-free access for essential public safety services must be maintained in this area of the Harbor. In addition, maintaining the turning basin in the waters between Recreation Pier and the Tide Point and Domino Sugar facilities is

essential for the continued safe operation of shipping and large vessel movements in the Harbor. This area also functions as an important "clear zone" for fireworks displays.

Recommendations

1) Providing public access corridors to the water is essential to preserving Fells Point's unique waterfront character. Access and view corridors opened up by the last Marina Master Plan Revision and formalized in the Fells Point Urban Renewal Plan should be preserved.
2) Water-side safety in the area is also important. The 200-foot setback from the channel established in the last Plan revision should be preserved. This will protect the commercial shipping channel and turning basin off Fells Point.
3) The TAC reviewed and approved a proposal to construct a 52-slip recreational marina at the Union Wharf development at 901-915 S. Wolfe Street. This approval was given under the conditions that the proposed slips on the southeast edge of the property may not conflict with the approved marina at the property to the South. In order to accomplish this, the distance from the edge of the piers at Union Wharf's property line must be a minimum of 1.5 times the length of the largest vessel to use these slips. A second condition requires that the parking requirements for the marina be met on site.
4) Redevelopment of the City's Recreation Pier should consider the historic use of the facility for transient public boat tie-up and include this as part of the redevelopment strategy.


Pier 6
Maritime Institute
Inner Harbor East Marina
Luxury Hotel
Thames
Brown's Wharf
Recreation Pier
Union Wharf
Swann's Wharf
Harbor Point Development
Henderson's Wharf
Harborview
Hwy
Tide Point
Domino Sugar
Museum of Industry
Tidewater Inner Harbor Marina
General Ship Repair Corp.
Figure 3 - Key Highway Industrial & Fells Point
Park
Residential
Industrial
Commercial
Excursion vessels
Historic vessels
Proposed boat slips
Boat slips
Public anchorages
Public docking
Approved recreational marinas
Industrial marina
View corridors
Boat lift
Water shuttle stop
Navigational Protection Zone
N

Canton

Existing Conditions

Canton extends from Chester Street to the intersection of Clinton and Boston Streets. Canton is being redeveloped with mixed commercial and residential uses. The Canton Waterfront Park was constructed to provide an important public waterfront access area as well as a land-side buffer between this area and the Canton Industrial Area on Clinton Street. The park also accommodates the relocated facilities of the Baltimore City Police Marine Unit, City fire boats and trash skimmers.

Since the 1989 Marina Master Plan, the area of redevelopment in Canton has extended down Clinton Street to include the proposed Canton Crossing development, a mixed-use area that is proposed to include either a 200-slip marina or a cruise ship terminal. As part of this development proposal, the Department of Public Works and Marine Police facility may be relocated south on Clinton Street.

The redeveloped portion of the Canton shoreline has seven private marinas with a collective total of 1186 marina slips. The largest of these is the Anchorage marina with 576 slips. All of the marinas that were proposed in the 1989 Plan have either been constructed or are permitted for development. An additional 200 slips were approved as part of the Canton Crossing development as part of this update to the Plan. With its 1513 permitted slips, Canton hosts the largest concentration of recreational boat slips of any area in the City.

A key issue in Canton is the proximity of the Lighthouse Point and Canton Crossing recreational marinas to the industrial uses on Clinton Street. The industrial area piers receive ships and barges loading and unloading oil and other materials. Because of the physical proximity of the industrial facilities to the recreational facilities, their use of the open water overlaps. New

proposals in this area must be given serious consideration to maximize navigational safety, and minimize conflicts between shipping and recreation uses.

Views from the Canton area shoreline have been greatly obscured by the large number of slips already constructed. Maintaining open water views from public access points along the promenade is a major concern in this area and has been addressed in the Canton Urban Renewal Plan. The Canton Waterfront Park is an important public access area with views across the water to Ft. McHenry National Monument. It is especially important to protect the views from this area. *(See Figure 4)*

Recommendations

1) Preserve the industrial area from Canton Crossing to Seagirt Marine Terminal.
2) In addition to the view corridors established in the Canton Urban Renewal Plan, open water view protection areas must be preserved at Canton Point and the Canton Waterfront Park. *(See Figure 4)*
3) The TAC reviewed and approved a proposal by Canton Crossing to construct a 200-slip recreational marina *or* a cruise ship terminal with a 45-slip recreational marina. If the cruise ship terminal is constructed on this site, the TAC has approved extending the pier head line to increase the safety of docking large ships at this location. Under this scenario, a 45-slip recreational marina is also approved with the following conditions:
    a. The design of this marina may not conflict with the existing boat ramp at the Canton Waterfront Park. The marina must provide a minimum 100 foot clearance from the boat launch area to the nearest marina slip.
    b. The marina design conflicts with the large storm drain outfall from Clinton Street. This storm drain carries significant volumes of flow during storm events, and will damage boats at the marina without special design considerations. The marina design must be revised to show that the facility will not interfere with the flow of storm water, and that the storm water will not damage the marina. This may

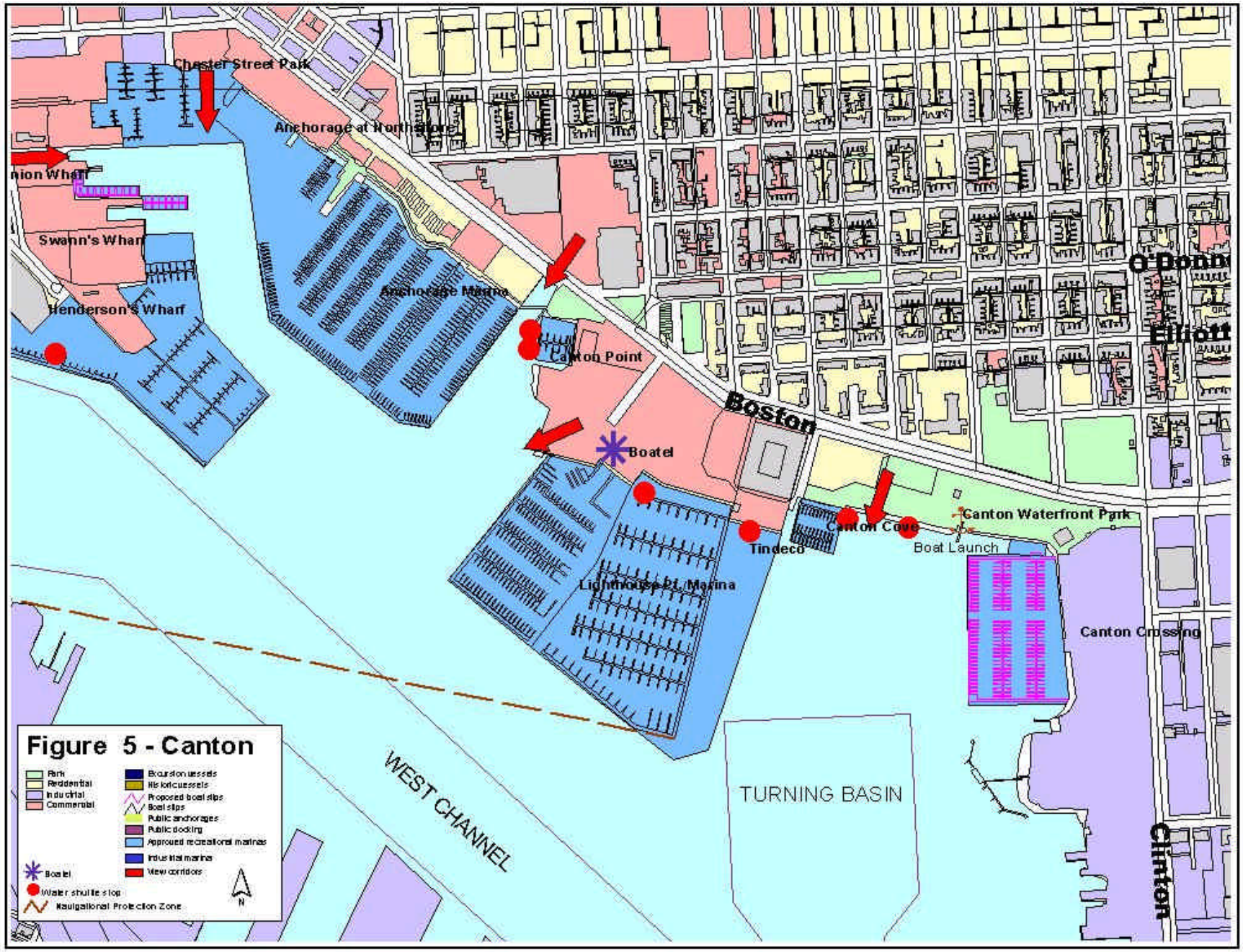
require that the overall number of marina slips constructed be less than the number approved.

c. The location of the proposed 45 slip marina in relation to the storm drain outfall from Clinton Street has potential to create a sedimentation and trash problem at the marina. The flow of water from the storm drain may interact with the marina structure, creating an increase in sedimentation. In addition, the marina slips will likely trap trash from the outfall. The proposed marina design must take these issues into account.

d. If the proposed marina displaces the existing facilities for the Department of Public Works and Marine Police, those facilities must be accommodated by the developer elsewhere. The new location must be approved by the City and the State Department of Natural Resources before construction of the new facility will be permitted.

If a different location is chosen for the cruise ship terminal, then the 200-slip marina may be built at this location. The pier head line may not be extended for construction of the recreational marina. All other constraints outlined in a. through d. above must be incorporated.

4) A 950-foot clear area must be maintained between the end of the pier head line at Canton Cove and the nearest marina structure (except for existing slips in front of Tindeco and Canton Cove) to allow room for vessels using the Clinton Street industrial facility to maneuver and room for recreational vessels to access the marina slips and public boat launch. Adequate wave attenuators must also be installed as part of any addition to the existing marinas to protect small crafts in the marina.


Chester Street Park
Anchorage at Northshore
nion Wharf
Swann's Wharf
Anchorage Marina
Henderson's Wharf
Canton Point
Boston
O'Donn
Elliott
Boatel
Canton Waterfront Park
Canton Cove
Boat Launch
Tindeco
Lighthouse Pt. Marina
Canton Crossing
WEST CHANNEL
TURNING BASIN
Clinton
Figure 5 - Canton
Park
Residential
Industrial
Commercial
Excursion vessels
Historic vessels
Proposed boat slips
Boat slips
Public anchorages
Public docking
Approved recreational marinas
Industrial marina
View corridors
Boatel
Water shuttle stop
Navigational Protection Zone
N

South Locust Point

Existing Conditions

The Locust Point peninsula separates the Northwest Branch from the Middle Branch of the Patapsco River and extends from Hanover Street to Fort McHenry. The Locust Point waterfront is characterized by heavy industrial uses which are served by a considerable amount of commercial shipping. The Baltimore Yacht Basin is the only existing recreational marina on the South Locust Point peninsula. The marina, which hosts 197 slips, is located adjacent on the south shore of the Locust Point peninsula just east of the Hanover Street Bridge. Ferry Bar marina is approved for 34 slips, but none have been constructed.

The Port Covington Business Park has been redeveloped as a Sam's Club and Walmart. An 800-slip marina was proposed for this area, but was removed from the Plan in 1997 at the owner's request. Several large, deep-water piers still exist at this site, with room for an additional pier if constructed. It continues to be used to store 'ready reserve' military cargo vessels. *(See Figure 5)*

Recommendations

1) Include this area as part of the industrial study under way by the Baltimore Development Corporation to determine possible redevelopment opportunities for the waterfront piers at this site.
2) Protect deepwater access for possible future industrial shipping uses from Ferry Point to Fort McHenry.

(Figure 7 to be inserted when complete)

Middle Branch

Existing Conditions

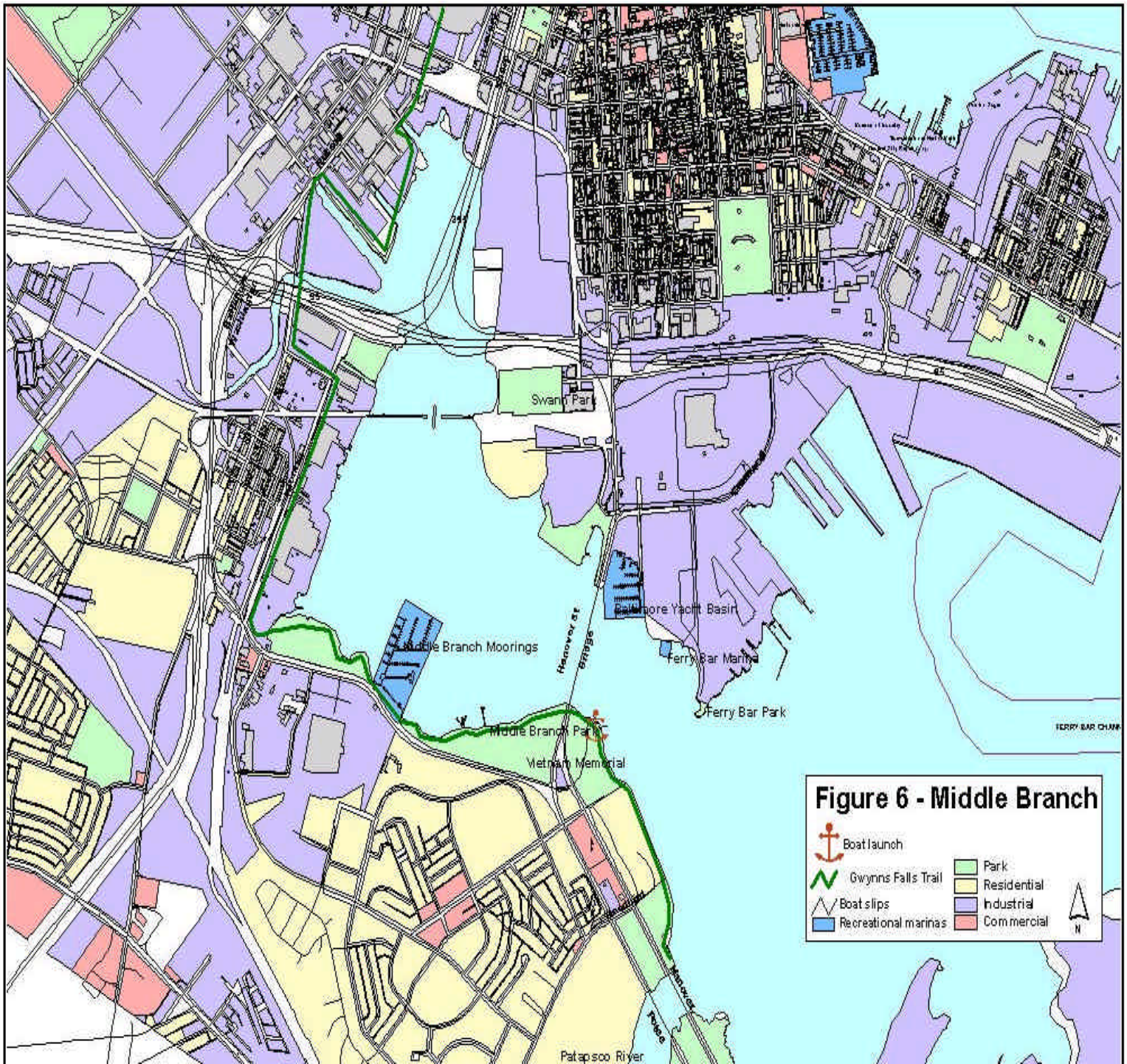
The Middle Branch portion of the study area includes the shoreline of the Middle Branch of the Patapsco River, west of the Hanover Street Bridge, as well as the shoreline between the bridge and Harbor Hospital Center. This area encompasses various uses from industrial to parks and public open spaces.

Middle Branch Park is a system of public open spaces along the shore including Waterview East and West, Westport ball field, Swann Park (Reedbird and Lookout Parks are outside of the area). Two public recreational boat ramps are located in the Korean War Memorial Park. The Water Resources Center/Rowing Facility provides facilities for crewing and sculling, as well as water quality and wildlife study. Middle Branch Marina, a privately-owned marina west of the Water Resources Center, has 340 in-water slips. The National Aquarium is working to relocate their animal care center to a waterfront site in front of the City's Central Garage, on the north side of the river. This redevelopment will include new wetlands and improved public access, complementing the Water Resources Center on the opposite shore. In addition, the Gwynns Falls Trail, a hiker/biker trail system extending fourteen miles from Gwynns Falls Leakin Park in west Baltimore, will connect over thirty neighborhoods and the Inner Harbor directly to the Middle Branch Park system.

The Middle Branch area is ecologically sensitive and provides an excellent opportunity for habitat restoration and passive public recreation; it is important for the City to preserve and enhance this character. The Middle Branch is shallow. Consequently, motorized boating activity must be minimized in this area to provide favorable conditions for habitat enhancement as promoted by the Critical Area Management Program. *(See Figure 6)*

Recommendations

1) This area should be more actively utilized for passive boating such as canoeing, kayaking and sculling. Funds should be invested to install trash interceptors, restore wetlands and clean contaminated sediments. This will also protect the public investment that created the Water Resources and Rowing Center.
2) New or expanded marinas are prohibited in this area.


Swann Park
Middle Branch Moorings
Baltimore Yacht Basin
Ferry Bar Marina
Ferry Bar Park
Middle Branch Park
Vietnam Memorial
Patapsco River
Figure 6 - Middle Branch
Boat launch
Gwynns Falls Trail
Boat slips
Recreational marinas
Park
Residential
Industrial
Commercial
N

Fairfield

Existing Conditions

The Fairfield area includes the shoreline south of Reedbird Park that runs east and south to the Patapsco Waste Water Treatment Plant. From the treatment plant, the shoreline continues along the northern shore of Curtis Bay to the City boundary at I-695. The Fairfield shoreline is dominated by heavy industrial uses with one exception. The Masonville Cove, which lies between the Arundel Corporation and the Maryland Port Administration's expansion area on the Masonville peninsula, is a unique ecological resource. It functions as an historic waterfowl staging area, harboring thousands of shorebirds during the spring and fall migration. In fact, this area is one of the largest waterfowl staging areas in the State, and is an incredible ecological resource. The fact that it is located within City boundaries, just three miles from downtown Baltimore, makes this area truly unique. It offers excellent opportunities for environmental education programming and eco-tourism. The Maryland Port Administration once proposed filling this area for marine terminal uses, but has since pledged support to preserve this area, and may possibly utilize it for ecological restoration as mitigation for other developments. *(See Figure 7)*

Recommendations

1) Fairfield is ideal for industrial uses and shipping activity. Industrial uses should be directed to and protected in this area.
2) The TAC reviewed and approved a proposal to extend the pier head line at the Port Liberty and Atlantic Terminal Facilities, and to remove the previously-approved boatel facility at Port Liberty. (See Appendix II for more detail).
3) Preserve and enhance the Masonville Cove area as a waterfowl staging area and habitat protection area. Improve the shoreline and restore wetlands here.
4) Recreational marinas should be prohibited in this area.

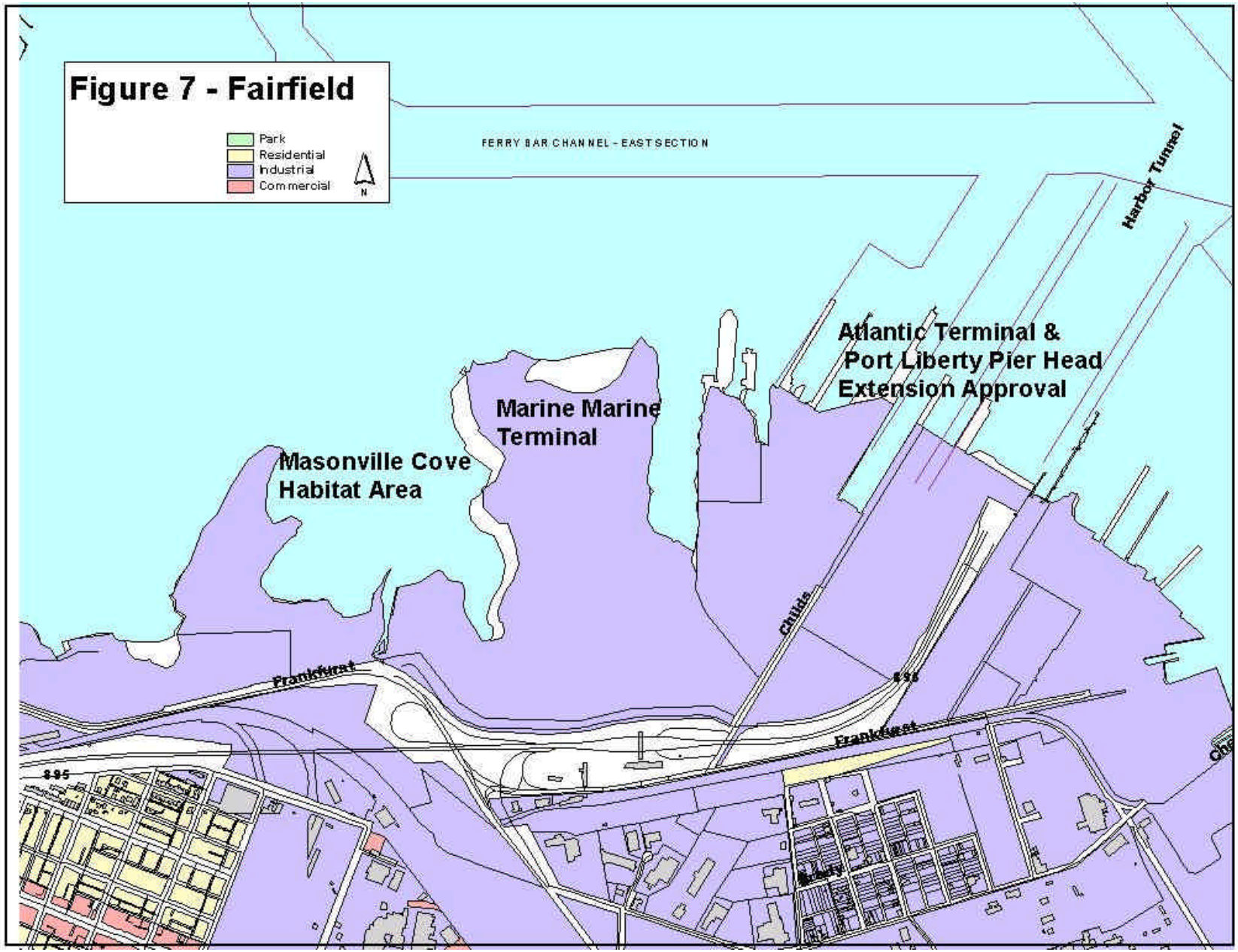


Figure 7 - Fairfield
Park
Residential
Industrial
Commercial
N
FERRY BAR CHANNEL - EAST SECTION
Harbor Tunnel
Atlantic Terminal &
Port Liberty Pier Head
Extension Approval
Marine Marine
Terminal
Masonville Cove
Habitat Area
Childs
Frankfurst
Frankfurst
895
895

Hawkins Point

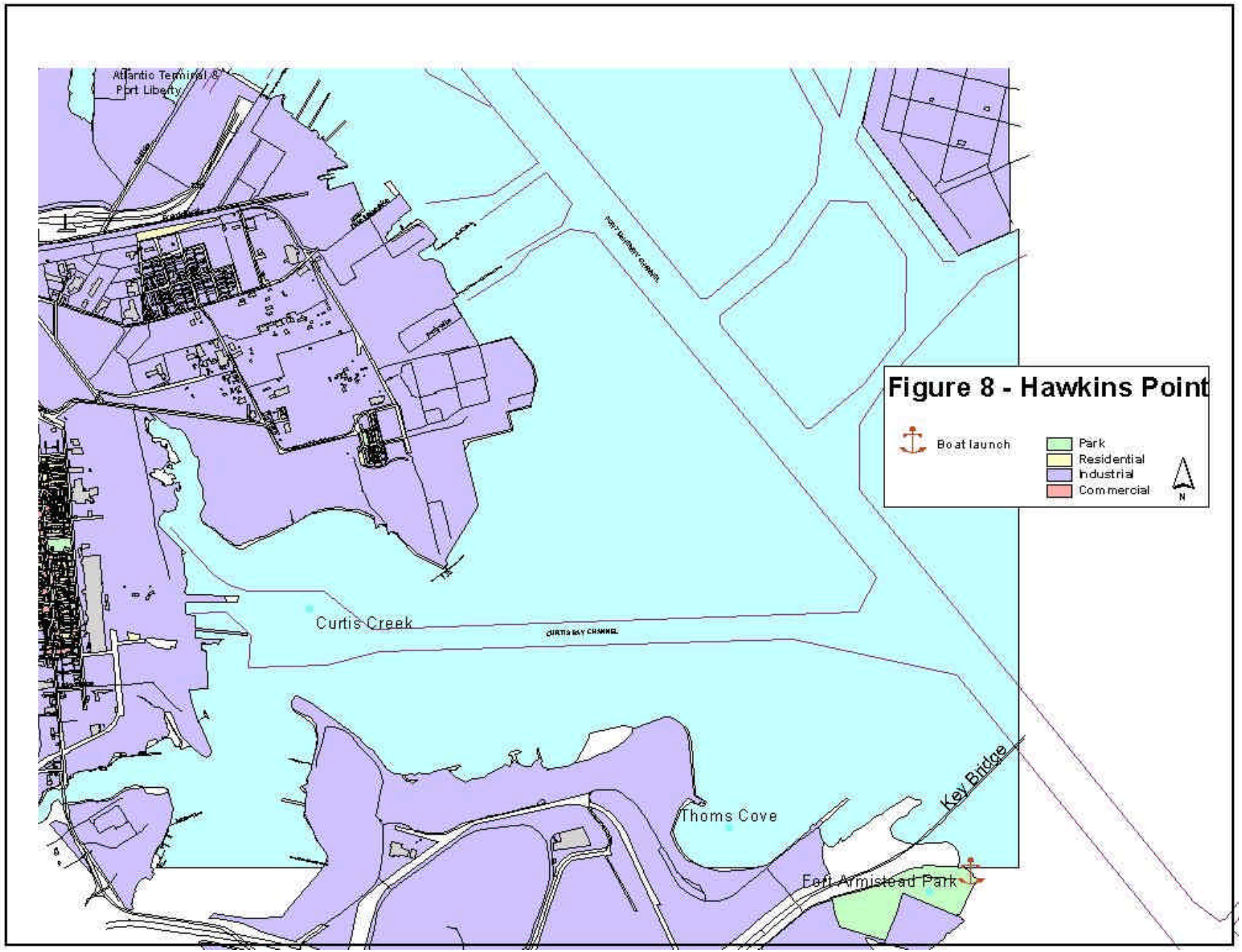
Existing Conditions

Hawkins Point begins on the eastern shore of Curtis Creek and the City boundary and proceeds along the shoreline eastward to Fort Armistead Park and the City boundary. The majority of the Hawkins Point shoreline is used for heavy industry.

Fort Armistead Park is located on the south side of the Key Bridge. Acquired by the City in 1927, the 46-acre park provides recreation opportunities to residents in the southern portions of Baltimore City and Baltimore and Anne Arundel Counties. The park offers a fishing pier and a free boat launch for public use. No marinas exist or are proposed on the Hawkins Point peninsula. *(See Figure 8)*

Recommendations

1) Recreational marinas should be prohibited in this area.


Atlantic Terminal &
Port Liberty
Curtis Creek
Thoms Cove
Key Bridge
Fort Armistead Park
Figure 8 - Hawkins Point
Boat launch
Park
Residential
Industrial
Commercial
N

Appendix I
Membership of Technical Advisory Committee

NAME	ORGANIZATION
Captain Mark Adams	MD Association of Docking Pilots
Lt. John Bitner	Baltimore City Marine Police
Ms. Kitty Bona	Harbor Cruises, Inc.
Mr. Robert Cuthbertson	MDE-Tidal Wetlands Division
Mr. William Cunningham	Living Classrooms Foundation
Mr. Bob Doedderlien	Baltimore City Fire Department
Mr. Bill Flohr	Inner Harbor East Marina
Captain Ron Edwards	Port Hazmat Officer
Lt. Ron Houch	US Coast Guard
Mr. Richard Hurley	Community Representative
Mr. Mark Kreafle,Sr	Maryland Port Administration
Ms. Fran Knauff	Inner Harbor Dock Master
Mr. Ed Kane	Harbor Boating, Inc
Mr. Kerry Lynch	General Ship Repair Corporation
Mr. Eldon Miller	Maryland Port Administration
Mr. Eric Nielsen	Association of MD Pilots
Mr. Bud Nixon	Rukert Terminals Corp.
Mr. Kenneth Ropp	MD DNR - Waterway Improvement Program
Mr. Ren Serey	MD Critical Area Commission
Mr. Paul Swenson	Moran Towing, Inc
Lt. Dulani Woods	US Coast Guard

Appendix II

2002 Harbor Master Plan Proposed Amendments

Fourteen amendments were submitted for approval in the 2002 update of the Baltimore Harbor Master Plan. These amendments ranged from new proposals for recreational marinas to requests for approval for seaplane tours, landing in the Harbor. The Technical Advisory Committee (TAC) recognized that it was important to review each proposal according to its unique circumstances, but also to maintain a level of consistency across all applications. To assure each application was reviewed according to the same overarching criteria, a Proposal Justification Rating Form was developed with a scoring component. After extensive discussion, each proposal was ranked according to this rating system. The decision to approve or deny the application was then determined based on all of these components. The Justification Rating Form is attached as part of this Appendix.

Each proposed amendment is discussed below. The numbers of the amendment correspond to the numbers on the map in this appendix.

1) PORT LIBERTY/ATLANTIC TERMINAL

PROPOSAL: Breach the pier head line for pier extension to accommodate larger ships.
VOTE: Approve
REASON: This pier headline breach meets the criteria contained in section H. of the Master Plan. The proposal directly relates to the historic industrial uses at the site. The proposal does not negatively impact marine infrastructure or navigational safety and does not have a negative impact on public use of navigable waters.

2) TIDE POINT MARINA

PROPOSAL: Create twelve-slip marina at Tide Point office complex.
VOTE: Deny
REASON FOR DENIAL: Recreational marina's are not permitted in the approved Planned Unit Development (PUD) for the site. If the owner amends the PUD the Technical Advisory Committee can review the application. The TAC cannot approve a recreational marina that is not legally permitted by zoning. If the PUD is amended to permit a twelve slip marina, the TAC will reconsider the application.

3) TIDEWATER MARINA

PROPOSAL: Convert an industrial marina to an industrial/recreational marina and enlarge the marina.
VOTE: Deny recreational marina, approve industrial marina.
REASON: The existing operation is an industrial marina on land that is zoned for industrial uses. Recreational Marinas are not permitted on industrially zoned land. The TAC cannot approve a use that is not legally permitted in the Zoning Ordinance. In addition, the marina is

surrounded on two sides by industrial operations, and therefore is not compatible for a recreational marina.

4) LIBERTY SHIP JOHN BROWN PIER HEAD LINE PIERCING

PROPOSAL: The organization Project Liberty Ship requested permission to build a thirty foot by 497 foot pier in a location where the existing pier headline is 282 feet from the landward edge of the property. This would extend the pier 215 feet into public waters and navigational space.
VOTE: Deny
REASON: The area proposed for the pier head line extension is within the Navigational Safety Zone of the Harbor, where the TAC determined that any loss of navigational space should be strongly discouraged. The proposed change did not meet the criteria for allowing changes to the pier headline in this zone. For a list of the criteria, see section H. The Technical Advisory Committee is supportive of Project Liberty Ship, and has agreed to work with them and the Mayor's Office to find an alternate location within the City for the ship.

5) DOWNTOWN SAILING CENTER MARINA

PROPOSAL: Legalize a pre-existing non-permitted forty slip marina in front of the Museum of Industry used by the Downtown Sailing Club; enlarge marina to expand onto property west of the facility with twenty slips.
VOTE: Deny
REASON: The marina exists on land that is zoned industrial. Recreational Marinas are not permitted on industrial zoned land. The TAC cannot approve a use that is not legally permitted in the Zoning Ordinance. The TAC noted that the Museum of Industry is not technically an industrial use, and the area west of the Museum along Key Highway has been converted into non-industrial uses. Therefore, the TAC recommended that the Downtown Sailing Center request that the City review the industrial zoning on this land and consider changing the designation. Should the zoning change the TAC can then review the application again on the merits of the marine issues.

6) RITZ CARLTON MARINA

PROPOSAL: Construct a thirteen-slip marina on the southeast side of the Ritz Carlton hotel PUD.
VOTE: Approve.
REASON: The proposal met all of the criteria for new recreational marinas as set forth in section D of this Plan.

7) WORLD TRADE CENTER PEDESTRIAN BRIDGE

PROPOSAL: Construct a large pedestrian bridge in front of the Baltimore World Trade Center into the Harbor to provide protection from terrorism to WTC building.
VOTE: Deny
REASON: The Bridge proposal directly conflicts with the recommendations contained in this Master Plan, including: will severely reduce navigational space in a constricted, heavily

trafficked area; block water views; 'fill' open water; and remove existing public mooring space.

8) NATIONAL AQUARIUM IN BALTIMORE

PROPOSAL A: Construct 40 foot by 10 foot wide pier that would shift the historic ships the Torsk and the Chesapeake Light Ship away from promenade wall to create space for emergency vehicles during the expansion construction of the Aquarium. *VOTE:* Deny
REASON FOR DENIAL: This proposal would further reduce navigational space in the Inner Harbor which is against the recommendations of the Plan.
PROPOSAL B: Construct a small access pier for educational instruction at the water.
VOTE: Approve
REASON FOR APPROVAL: This small pier is acceptable because it is in and a non-navigable area of the harbor behind a bridge structure and is small enough that it does not create a 'fill' area or block views.

9) HARBOR POINT BRIDGE

PROPOSAL: Construct a bridge across the water from the end of President Street to the Harbor Point development site (formerly the Allied Chemical site).
VOTE: Deny
REASON: This proposal presents unique challenges because in involves designs for land-based safety that conflict with water-based infrastructure and safety. In this case, the water-based conflicts include removal of portions of one recreational marina and blockage of access for another. The impact on boating navigation is in conflict with the 1989 Plan, and the proposed bridge creates new safety hazards for boating in the Harbor. Any proposed bridge at this site would have to address these issues before it could be acceptable to the TAC.

10) HARBOR POINT PIERS

PROPOSAL: Construct four piers varying in length from 90 feet to approximately 212 feet.
VOTE: Approve with conditions
REASON: The project is compatible with surrounding marine infrastructure and land use, and will not create nautical safety hazards. The finger piers offer a fresh opportunity for docking visiting ships, and commercial craft outside of the Inner Harbor Basin, which is at times too congested. However, development of the piers will create potential conflicts with existing pyrotechnic special events such as fireworks, and is not suitable for a recreational marina. The TAC set conditions on the use of the piers to assure these safety concerns are met. These conditions should be incorporated into any PUD or changes in the Urban Renewal Plan amendments for the area. The conditions are as follows:

- Piers may not be used for long term leasing space for recreational vessels or as a recreational marina. Only short term public docking only is permitted.
- All boats/vessels must vacate the piers for special events that involve fireworks or pyrotechnics. No vessels or people may occupy the piers during fireworks or pyrotechnic special event displays for safety reasons.

- Pier design may not obstruct or impede access to the Living Classrooms Foundation Marine Railway to the east of the site.

11) UNION WHARF RECREATIONAL MARINA

PROPOSAL: Construct a 52 slip recreational marina as part of the Union Wharf mixed-use development in Fells Point.
VOTE: Approve.
REASON: This marina meets the guidelines for creation of new recreational marinas in section D of the Plan. It also met the criteria found in the Rating form.

12) MARINE AIR ADVENTURES

PROPOSAL: Create a seaplane tourism operation from the Harbor that uses the Harbor Channel for take-off and landing.
VOTE: Deny
REASON: The use is not compatible with surrounding marine infrastructure, and creates a potential safety hazard for commercial and recreational boating during its take-off and landing. When the plane takes off and lands, it must reach speeds of sixty m.p.h., which greatly exceeds the six knot speed limit enforced in this area for safety. The proposal is not consistent with the goals of the 1989 Plan due to conflicts with commercial shipping operations. The tourism nature of the operation is not compatible with industrial shipping, and the noise from the aircraft would have a negative impact on homes in the vicinity of the air tour.

13) CANTON CROSSING MARINA

PROPOSAL A: Construct a 200-slip marina in front of the proposed Canton Crossing Planned Unit Development on Clinton Street.
VOTE: Approve with conditions.
REASON: The marina is permitted by zoning in the approved Planned Unit Development (PUD) for the site. The marina meets guidelines for recreational marinas presented in the Plan *(see page19)* and the criteria listed in the Project Justification rating. To assure that the proposed marina is designed to meet the TAC's criteria, the following conditions were placed on the design:

- Must meet marina parking requirements on site as set forth in the approved PUD.
- Must design the marina to address storm water flow issues at the storm drain at the corner of Boston and Clinton Streets.
- Must accommodate the needs of the Marine Police and DPW boats at another suitable site if the marina design displaces these facilities.

14) EAST HARBOR MARINE REPAIR & BOATEL FACILITIES

PROPOSAL: Create a Dry Storage Marina/Boatel on a pier on Clinton Street at an active deep-water shipping location. The proposed use would replace the existing deep-water shipping operation.

VOTE: Deny

REASON: The proposal does not meet the conditions for approval of a boatel in the Master Plan. *(See Section D)* The Master Plan states that no boatel may displace an active shipping operation. In addition, the use is not compatible with the industrial shipping operations surrounding it.

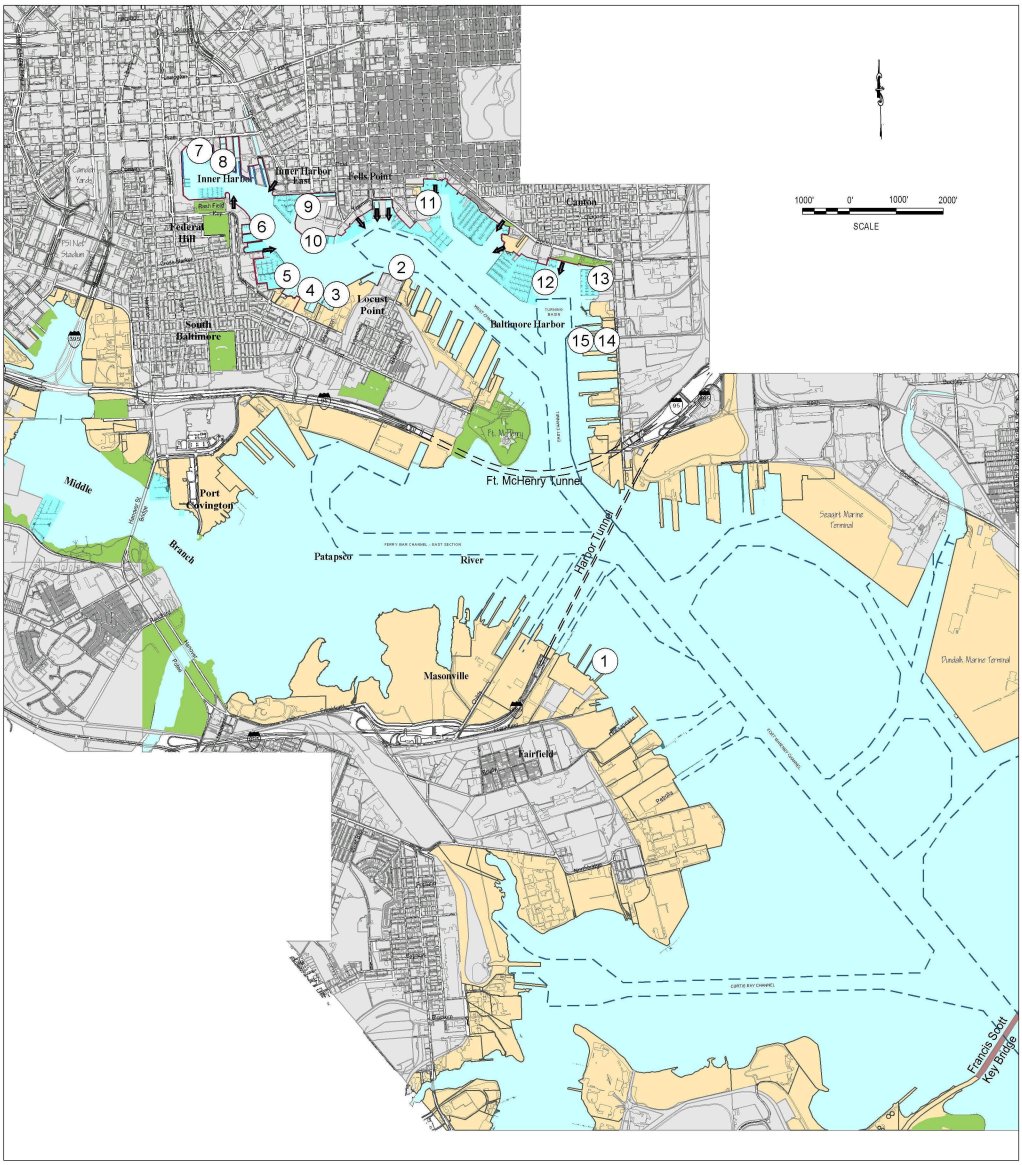
15) EAST HARBOR MARINE HARBOR HELIPORT

PROPOSAL: Place a heliport on the end of an industrial pier on Clinton Street.

VOTE: Deny

REASON: The TAC determined that the heliport would displace an active deep-water shipping operation and remove the piers from use as a deep-water shipping site. A heliport cannot operate at an active shipping berth. The Master Plan has consistently stated that deep water shipping locations must be preserved.

BALTIMORE HARBOR MASTER PLAN TRAFFIC STUDY



Proposed Amendments

1. Port Liberty Site
2. Tide Point Marina
3. Tidewater
4. John Brown
5. Downtown Sailing Center
6. Ritz-Carlton Inner Harbor - 13 Slips
7. World Trade Center Pedestrian Walkway
8. NAIB Pier 3 Marine Museum Ships Relocation and Access Pier
9. Harbor Point Bridge
10. Harbor Point
11. Union Wharf
12. Marine Air
13. Canton Crossing
14. Repair And Boatel Facilities
15. Harbor Heliport

MOFFATT & NICHOL ENGINEERS
BALTIMORE, MARYLAND

Figure 1.1: Proposed Amendments